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STUDY OF PHYSICIAN REIMBURSEMENT UNDER MEDICARE AND MEDICAID

Volume II

by

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PART C

THE CUNY MICRO STUDY

CHAPTER 10

INTRODUCTION TO THE MICRO STUDY

Part B examined fee levels, carrier discretionary practices and carrier operating statistics for the United States. Part C describes the micro study of carrier practices in determining fees and presents profiles of physician providers and beneficiaries under Medicare in Queens and Nassau counties, New York. The findings are based on claims for payment for Medicare service in 1976 submitted to Group Health, Inc. and Blue Cross/Blue Shield of Greater New York. An analysis of Medicaid in Queens based on claims information for July 1974 through June 1975 is also included in the micro study.

The Medicare program is charged by Congress with providing quality health care to the aged, while at the same time keeping the program expenses within reasonable bounds. The intent of the law was to provide the services without disrupting the existing system of service delivery. The concept of reasonable charge as determined by the fees physicians charge in a base period is meant to make the Medicare market conform to the rest of the medical services market. To assure that carriers perform charge determination functions properly the SSA issues regulations to the form of the Carriers Manual, Interoffice Memoranda and Intermediary Letters.

However, the regulations do not cover every aspect of fee determination and considerable leeway is left to the carriers to select and follow discretionary practices. These practices can affect not only the cost of the program and the quality of medical services, but also the distribution of services.

Part B has reported on our national study of discretionary practices of carriers, in which questionnaire data were used as the source of information on the practices and carrier statistical reports provided information on fees and performance variables. (Other national sources, as indicated in Part B, were used for socioeconomic variables). The additional approach of a micro study of two counties was used to yield further information as to the effects of Medicare carrier practices.

The Micro Study

Part C describes the micro study of carrier discretionary practices undertaken to supplement the national study described in Part B. Claims data of two carriers in contiguous counties, therefore sharing many environmental characteristics affecting the Medicare market, were used for three major purposes:

. Simulation studies of the effects on 50th and 75th percentile fee levels of varying selected discretionary practices in reasonable charge determination. By processing the same claims set under identical conditions ex-

cept for substitution of a single alternative assumption as to parameters or program rules the effect of a discretionary practice is isolated from variations due to other causes.

- A comparison of providers' Medicare activity, revenue and assignment behavior in the counties
- A comparison of beneficiaries' utilization levels, types of doctors seen, and other features of their behavior in the Medicare market.

While significant differences in physician and patient behavior are revealed by the profiles, it is obvious from both internal and external data (as will be indicated in the presentation) that because of differences in market conditions carrier practices are not the sole explanation for the profile contrasts. However, patients would not or could not travel to use specialists in other counties, to take one example of beneficiary behavior, unless carriers, through locality and specialty designation, assured a given level of payment. Consequently, the framework of Medicare administration cannot be ignored in analyzing the observed behavior. And, as will be explained in detail below, the simulation studies show that certain parameter changes and other practices do make a difference in the level of prevailings, the number of doctors embraced by reasonable charge determination, and other measures of impact.

Certain terms connected with Medicare claims processing and physician reimbursement are used in the following analysis. A list of important terms with their definition and operational identification is presented at the end of this chapter. In some cases the definition is an exact quotation from Medicare regulations.

The micro study also included an analysis of Queens Medicaid. Comparison

of Medicaid and Medicare profiles meant comparing a low fixed fee payment system with another system in which fees were higher and related to customary charges. While procedure mix for individual doctors could not be compared, it was possible to study service volume per physician and per patient under the two systems and thus to observe how physicians respond to different kinds of opportunities to maximize revenue.

Discretionary Practices and Simulation

The micro study was concerned with discretionary practices only in determining prevailing charges, and not practices involving other aspects of Medicare administration such as pricing and processing of individual claims. Even within the RCP, not all practices could be individually examined. (For instance, coding structure as such is omitted.)

While previous studies identified the prevailing charge as the Medicare "fee", the prevailing is only an administrative upper bound on fees and cannot be used in estimating the cost of the program to the government or to the beneficiaries, or its attractiveness to doctors. Therefore, the micro study used the following set of fee concepts, based on stages in Medicare reasonable charge determination.

- Submitted charge - charge requested by physician or supplier for services rendered.

- Customary charge - median of submitted charges for a given physician for a given procedure.

- Prevailing charge - the 75th percentile of the distribution of customaries weighted by their frequencies, for a given procedure. 1/

- Allowed charge - the lowest of the submitted, customary and prevailing charges for a given procedure. Medicare pays 80% of the allowed charge after the deductible has been satisfied.

1/ This term now implies the prevailing charge after adjustment for the economic index.

Some discretionary practices are unlikely to be related to price levels unless the practices are part of a set or sequence. For example, retaining a claims data base does not mean that the information is used in a future period. The same can be said about printing out the instances of a certain type of carrier decision. Other procedures have high leverage only in certain market situations. Some practices may appear to have a strong potential effect but the direction is not self-evident - will prices be raised or lowered? Merger of claims data is an example - it reduces allowed charges only if fees in the outside program that is merged are constrained to a lower level than Medicare's cutoff point. Some practices have to be examined closely to predict their effect with assurance. For example, if outside claims are compared with Medicare claims, what minimum volumes does the carrier require before doing the comparison? For another group of practices, history or logic or both establish a strong prediction of effect.

Because all practices are not equally important, several practices that have broad implications for fees and a reasonable pathway for effect were selected for study. The simulation studied the customary and prevailing fees for 14 procedures resulting from alternative carrier practices. The procedures were carefully selected so as to reflect the Medicare market as a whole, since study of fees for all Medicare procedures was not feasible.

The sample was designed to include representatives of:

- Medical and surgical services.
- Diagnostic as well as therapeutic services.
- Procedures largely confined to one specialty and those practiced by a range of specialists; procedures performed by few physicians and by many.

- Procedures often encountered among Medicare patients as well as those occurring less frequently. However, all the codes studied were among the 50 most frequent Medicare procedures.
- Procedures which are common to the Medicare and the non-Medicare populations as well as procedures which are largely confined to Medicare patients.
- Procedures which are common to males and females and those which are generally restricted to one sex.
- Procedures done in office and hospital settings.
- Finally, for comparative analysis of Nassau and Queens fees, strictly comparable procedures were selected.

In selecting procedures to satisfy these various conditions, the advice of our medical consultant, Dr. Edward Hughes, was used. Although the effect of specific discretionary practices on fees was not analyzed separately for each of the above kinds of medical market, our procedure list includes the varied service situations and thus yields generalizable conclusions about the effect of carrier practices on physician fees.

Profile Development

The substitution of one method of profile development for another applied to a single set of submitted claims measures the overall impact on fees of the total set of discretionary practices related to prevailing fee computation rather than single parameters or practices. The research design for the simulation trials was adapted to the fact that the GHI program for reasonable charge determination was available for trial on Blue Shield Medicare data as well as on GHI data treated in alternative ways, whereas the Blue Shield program was not available.

Merger

Sections 5010 and 5010.1 of the Carriers Manual, which are presented below, furnish the administrative guidelines for including non-Medicare claims in the

claims history base used to determine Medicare prevailing fees. Although the intent is clear, carriers have much latitude in determining exactly which non-Medicare data are considered in Medicare pricing and the ways in which they are to be applied.

> 5010. THE CUSTOMARY CHARGE
> The customary charge is the amount which best represents the actual charges made for a given medical service by a physician to his patients in general, or by other persons who supply other medical and health services to the general public. The carrier should therefore obtain information on the customary charges of physicians and other persons not only from the Medicare program, but from other available sources, e.g., from its own programs, from other insurance programs, from the Federal Employee Health Benefit Program, from CHAMPUS, from any studies conducted by State or local medical societies, and from public agencies. It also may ask physicians or other persons for their charges for services rendered to the public in general where the carrier decides that circumstances will permit this.
>
> In instances where physicians or other persons may feel that the carrier does not have sufficient current information about their charges, they may volunteer this information to the carrier. Further, carriers should make known to the medical community their willingness to receive currently valid information regarding customary charges. However, any information on charges obtained from other sources should be validated, to the extent possible, against the carrier's claims experience under Medicare and its own programs.
>
> 5010.1 However, where the charges generally made by a physician or other person to other patients are lower than those made to Medicare beneficiaries, the lower charges should be used as the basis for establishing the Medicare reasonable charge screen.

Merger or comparison of other claims data does not necessarily mean lower prices.[1/] IM 75-53 refers to categories besides "private business" data - Medicaid, and Federal employees (and, in addition, "other"). Because of the concentration of Federal employee enrollment in high-option plans, FEP claims should resemble private claims. But as Medicaid fees generally are low, including these claims would tend to lower prices. This is also possible for Blue Shield claims in those localities in which a fee schedule is used, where there are participating physicians, and where usual and customary charges are used subject to plan review. For commercial carriers, the price

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1/ See Chapter 6.

effect of including private claims depends in part on the vigor of claims price review. For all types of merged claims data, the age distribution of the non-Medicare enrollees strongly affects the possibility of procedure overlap with Medicare and thus of influencing prices at all. Comparison of non-Medicare claims can reduce prices more than merger of the same data.

Locality Designation

Section 5020.1 of the Carriers Manual states that carriers should use their knowledge of local conditions in delineating localities.

> "5020.1 Determination of Locality.--For the purpose of making reasonable charge determinations, a locality is the geographic area for which the carrier is to derive the prevailing charges for services. Usually a locality will be a political or economic subdivision of a State, and it should include a cross-section of the population with respect to economic and other characteristics. Where people tend to gravitate toward certain population centers to obtain medical care or service, localities may be recognized on a basis constituting medical service area (interstate or otherwise), comparable in concept to "trade areas".
>
> Carriers should delineate localities on the basis of their knowledge of local conditions. The localities may differ in population density, economic level, and other major factors affecting charges for services. However, distinctions between localities should not be so finely made that a locality includes only a very limited geographic area whose population has distinctly similar income characteristics (e.g., a very rich or very poor neighborhood within a city).
>
> Where appropriate, different localities should be established with respect to different types and levels of services. For example, a carrier may determine that a State has five localities for general practitioners' charges, but only one locality (the entire State) for members of a particular specialty. This might happen where there are not enough members of the specialty group in any one of the five localities to establish a valid basis for deriving the prevailing charges for their services."

The guideline presented to carriers includes the concept of a cross-section of population, but also implicit (as indicated by other HCFA materials) is the expectation that a locality should be internally homogeneous with respect to customary fees, and distinct in that same respect from neighboring areas. The general objective appears to be integration of the Medicare and non-Medicare markets. Heterogeneity (cross-section) is not necessarily desirable because upper-income clientele of physicians can raise the expense to Medicare. At the

same time, it is necessary to assure that Medicare patients have an adequate supply of physicians by offering fees comparable to those in adjacent or overlapping non-Medicare markets.

Specialty Designation

According to current law and administrative interpretation, carriers have considerable latitude in specialty designation, with regard to both requirements for specialty status and grouping of specialists' fees for purposes of determining prevailing fees. Regarding specialties, the Carriers Manual states:

> "5020.2 Variation in Range of Prevailing Charges.--The range of prevailing charges in a locality may be different for physicians or other persons who engage in a particular specialty practice or service than for those who are engaged in another type of specialty practice or in general practice or service. Existing differentials in the level of charges between different kinds of practice or service could, in some localities, lead to the development of more than one prevailing charge for application by the carrier in its determination of reasonable charges. Carrier decisions in this respect should be responsive to the existing patterns of charges made by physicians and other persons who render covered services, and should establish differentials in the levels of charges between different kinds of practice or service only where this would be in accord with such patterns."

The Manual also lists specialty categories in #13512. This list is presented in connection with a sampling of carrier performance rather than as a mandate. In developing prevailings, BC/BS of Greater New York uses simply a specialist/non-specialist classification, while GHI uses the manual specialty categories (merging GPs, osteopaths, and family practitioners).

While the effect on prevailing fees of these different methods is suggested by comparing prevailing fees in the two counties, simulation, in which actual prevailing fees for Queens are compared with those that would result from a single specialty grouping, is a more rigorous approach. The specialty grouping issue includes the separation of GPs from specialists in fee determination for specific

procedures. The effect of varying the specialty grouping cannot be uniformly predicted, since it depends on how many kinds of physicians perform a given procedure, and on the range of actual fees, frequencies at each fee level, and the number of physicians performing at each fee level.

For completeness, the specialty grouping issue needs to be analyzed in conjunction with specialty designation. IM 77-76 now has a carrier questionnaire requesting detailed information on the stringency of the criteria used and other related matters. Effects of specialty-related administrative practices, cannot be comprehended without taking into account other factors influencing how the market for given procedures is shared by specialists and non-specialists, such as hospital rules, consumer preference, fear of malpractice actions, and comparative advantage to physicians in a given context of prices and relative inputs for different procedures.

Data Sources

The chief data source for the pilot study was the claims records supplied by the carriers for the two counties; GHI for Queens and BC/BS-GNY for Nassau. In addition, GHI programs used in computation of prevailings were used in the simulations. The coding instructions used by the carriers in processing the claims, such as procedure, specialty, type of service, and place of service, were also observed. For purposes of the study all BC/BS records were converted to GHI format and all BC/BS codes were converted to GHI codes. The record layouts and conversion tables are shown in the Appendix to this chapter. The DHEW Best alfa file for Queens and Nassau which identifies Medicare enrollees was used in the selection of beneficiaries that were profiled as reported in Chapter 13. The layout of the Best alfa is presented in Table 10-13.

Claims data were obtained for Calendar Year (CY) 1974 and 1976. The GHI CY 1974 data were not complete and therefore were not used. The CY 1974 data for Nassau were used only in simulation studies in order to compare computed prevailings to those provided by the carrier. (FSY 1978 prevailings for Nassau were not

available since it ceased to be a separate locality and was incorporated into BC/BS locality B.)

For the Medicaid analysis, the New York City Medicaid office supplied CUNY with the "HEW tape" file consisting of 60 tapes containing claims information for the period January 1973 to June 1975. Claims record items that were useful for the analysis were as follows:

Patient ID number

Payment cycle

Provider ID number

Service date

Service code

Patient's year of birth

Amount claimed

Amount approved

Matching of service records of enrollees to specific physicians required use of the Medicaid vendor file, also supplied to CUNY by New York City Medicaid. The Medicaid vendor file contains the following:

Identification number

Start date in Medicaid (date of first invoice)

Expiration date

Specialty code (3 digits)

Name and address (names will be omitted to protect confidentiality)

Claims quarter

Unfortunately, physicians in shared medical facilities are not shown under a group number in the claim record or in the vendor file. Services ascribed to a certain physician ID number on a claim may actually have been rendered by an associate.

The New York State Medical Directory 1976-1977 was used to determine for Medicaid physician providers board diplomate status and specialty college memberships, workmen's compensation rating, medical school graduation (name and year), and hospital staff appointments as attending or consulting physician. The Directory also identified psychiatrists accredited by the State Department of Mental Hygiene. The fee schedule contained in the New York State Medical Handbook was used to obtain fees. For most of the procedures relative values are stated but dollar amounts are used for office visit fees for general practitioners, psychiatrists, other specialists and consultants.[1/]

These sources were used to prepare physician and beneficiary behavior profiles based on the patient record and paralleling insofar as possible the Medicare profiles obtained in the micro study.

1/ The State Medical Fee Schedule edition in use for Medicaid physician payments is dated July 1, 1975. It is a relative value scale based on the State Medical Society's 1965 scale, and therefore based on the 1964 California RVS. Osteopathic physicians as well as doctors of medicine are included. Home call rates apply to services received by persons in residential facilities. Multiple calls on a single day are reimbursed, and additional diagnostic procedures not part of a routine examination by an attending or consultant physician are separately reimbursable. A consultation rate is applicable when the examination is within the scope of the consultant's specialty and is certified as requested and necessary by the attending physician, but is not applicable if patient care is transferred to the consultant. By special consideration, intensive or unusual service is reimbursed beyond the fee schedule (not indicated on the payment record). For procedures not listed, each public agency may determine fees payable, with review by the Interdepartmental Committee on Health Economics. Such fees may then be incorporated into the fee schedule. No physician is permitted to receive over $800 for a single operation. In medical assistance, the dollar amounts and the conversion factors ($5 for medicine, radiology and anesthesia and $4 for surgery) represent maximal levels. A copayment of 20% is applicable; the physician is paid 80% of the schedule amount as a maximum and is forbidden to charge more than the fee schedule.

Characteristics of the Study Areas

Although Queens and Nassau counties are neighboring areas within a metropolitan community, they have many dissimilarities in demography, economic level, and health care resources. According to data from DHEW's Area Resource File, Nassau's population is only 71.2% that of Queens and also sustained a greater decline 1970-74, 2.1% compared to 1.2%. Nassau has only 2/3 as many families as Queens but a larger average family size - 4.0 compared to 3.6. Nassau population is younger than Queens, where there are 2.2 times as many aged persons, and where the aged make up 12.4% of the population compared to only 7.9% in Nassau. Per capita income is 19.2% higher in Nassau and the difference is even greater for median family income.

The number of interns and residents in general hospitals in Queens is 68% that of Nassau. Nassau has fewer active non-federal physicians and fewer full-time physicians in general hospitals. However, the ratio of physicians per 1,000 population is higher in Nassau - 2.2 as compared to 1.6 in Queens. When hospital-based physicians are removed the difference is accentuated. Queens has 6% fewer general hospital beds than Nassau and less available bed days per 1,000 population. The number of physicians (out of hospital) per general hospital bed is also smaller in Queens.

Use of clinics (outpatient departments plus emergency rooms) is higher in Nassau (1.05 visits each year per person) as compared to only .85 in Queens. The Medicare reimbursement per SMI enrollee in 1975 was $235.46 in Nassau compared to $226.60 in Queens.

Prevailing charges for Fee Year 1976 in Nassau county (locality E of BC/BS-GNY) and Queens county (GHI) were compared for 50 of the most frequently performed procedures. These prevailing charge data[1/] represent the maximum

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1/ Source: Medicare Directory of Prevailing Charges FY 1976 SSA, BHI, Division of Contract Operations.

TABLE 10-1

Comparison of Selected Characteristics for Nassau and Queens Counties

	Variable	Queens	Nassau
1.	Population - 1970 Census	1,986,400	1,428,200
2.	Population estimate for 1974	1,962,900	1,398,000
3.	Age 65 and over: Males 1970	101,100	44,400
4.	Age 65 and over: Females 1970	146,200	67,800
5.	Age 65 and over: Both sexes 1970	247,300	112,200
6.	Aged as percent of population 1970	12.4	7.9
7.	Per capita income 1972, $	4,667	5,566
8.	Median family income 1969, $	11,545	14,625
9.	Number of families 1970	549,542	359,638
10.	Average family size	3.6	4.0
11.	Interns and residents, general hospitals 1975	536	792
12.	Total medical school enrollment 1975	-----	-----
13.	Active non-federal physicians 1975	3,168	3,167
14.	Active non-federal physicians 1970	3,649	2,900
15.	Active non-federal physicians hospital based practice 1975	1,279	944
16.	Physicians per 1000 population 1975/1974	1.6	2.2
	" " " " 1970/1970	1.8	2.0
17.	Beds in general hospitals 1975	4,997	5,323
18.	Outpatient visits to general hospitals 1975	1,274,573	1,032,596
19.	Emergency room visits to general hospitals 1975	399,158	432,230
20.	Physicians not in hospitals per 1000 population: 1974 (v 13 - v 15)/v 2/1000	0.96	1.56

TABLE 10-1 (continued)

Comparison of Selected Characteristics for Nassau and Queens Counties

	Variable	Queens	Nassau
21.	Available bed days per 1000 population $\frac{v\ 17 \times 365}{v\ 2/1000}$	929	1,390
22.	Physicians not in hospitals per bed in general hospital 1973/1974 $\frac{v\ 13 - v\ 15}{v\ 15}$	.378	.410
23.	Use of clinics $\frac{v\ 18 + v\ 19}{v\ 2}$	.85	1.05
24.	Medicare expenditures per SMI enrollee 1975, $	226.60	235.46

Sources: Area Resource File 6, May 1977; Health Insurance, 1975, DHEW, SSA; Physician Distribution and Medical Licenture in the U.S., 1975, American Medical Association.

TABLE 10-2

Comparison of FY 1976 Prevailing Charge Fees Queens (GHI) vs. Nassau (BC/BS GNY Locality "E")

Procedure	GP		SP		GP	SP
	Queens GHI	Nassau BC/BS	Queens GHI	Nassau BC/BS	BS/GHI	BS/GHI
1. Initial limited office visit - new patient	$ 11.80	$ 15.00	$ 25.00	$ 29.50	1.27	1.18
2. Initial comprehensive office visit - new patient	23.60	20.00	35.00	30.00	0.85	0.86
3. Minimal office visit - established patient	—	—	—	—	—	—
4. Routine followup brief office visit - established patient	10.00	12.00	15.00	17.00	1.20	1.13
5. Routine followup brief home visit	15.00	17.70	20.00	23.60	1.18	1.18
6. Initial brief hospital visit	—	—	—	—	—	—
7. Initial comprehensive hospital visit	25.00	29.50	41.30	35.40	1.18	0.86
8. Routine followup brief hospital visit	15.00	15.40	17.70	20.00	1.02	1.13

TABLE 10-2 (continued)

Comparison of FY 1976 Prevailing Charge Fees: Queens (GHI) vs. Nassau (BC/BS GNY Locality "E")

Procedure	GP		SP		GP	SP
	Queens GHI	Nassau BC/BS	Queens GHI	Nassau BC/BS	BS/GHI	BS/GHI
9. Biopsy skin	$38.00	$35.00	$50.00	$35.00	0.92	0.70
10. Radical mastectomy	766.40	608.00	884.30	884.25	0.79	1.00
11. Reduction of fracture-neck of femur	---	776.80	1,140.00	999.20	---	0.88
12. Arthrotomy-puncture for aspiration of joint effusion	20.00	29.50	23.75	30.00	1.48	1.26
13. Needle puncture of bursa	17.70	25.00	25.00	35.00	1.41	1.40
14. Bronchoscopy	---	206.30	250.00	250.00	---	1.00
15. Thoracentesis	70.70	40.00	100.00	75.00	0.57	0.75
16. Catheterization[1/] of heart	---	200.00	250.00	200.00	---	0.80
17. Insertion of pacemaker	---	353.70	300.00	375.00	---	1.25
18. Blood transfusion	---	15.00	---	15.00	---	---
19. Colectomy	---	825.30	1,000.00	1,120.10	---	1.12

TABLE 10-2 (continued)

Comparison of FY 1976 Prevailing Charge Fees: Queens (GHI) vs. Nassau (BC/BS GNY Locality "E")

Procedure	GP		SP		GP	SP
	Queens GHI	Nassau BC/BS	Queens GHI	Nassau BC/BS	BS/GHI	BS/GHI
20. Appendectomy	$400.00	$383.20	$450.00	$518.80	0.96	1.15
21. Sigmoidoscopy	29.50	25.00	41.30	30.00	0.85	0.73
22. Hemorrhoidectomy[1/]	350.00	300.00	412.70	410.00	0.86	0.99
23. Cholecystectomy	600.00	648.50	707.40	707.40	1.08	1.00
24. Repair hernia	332.00	412.70	471.60	442.10	1.24	0.94
25. Cystoscopy	---	50.00	53.00	50.00	---	0.94
26. Dilation of urethra	15.00	20.00	20.00	20.00	1.33	1.00
27. Prostatectomy	---	694.00	850.00	854.80	---	1.01
28. Transurethral electrosection of prostate	---	694.00	825.00	780.00	---	0.95
29. Hysterectomy	586.00	750.00	648.50	750.00	1.28	1.16
30. Extraction of lens	---	766.40	800.00	800.00	---	1.00
31. Chest X-ray	20.00	23.60	25.00	20.00	1.18	0.80
32. X-ray spine[1/]	70.70	35.00	94.30	35.00	0.50	0.37
33. X-ray hip[1/]	25.00	33.00	29.50	35.00	1.32	1.19
34. X-ray stomach	70.00	76.60	75.00	76.60	1.09	1.02

TABLE 10-2 (continued)

Comparison of FY 1976 Prevailing Charge Fees Queens (GHI) vs. Nassau (BC/BS GNY Locality "E")

Procedure	GP		SP		GP	SP
	Queens GHI	Nassau BC/BS	Queens GHI	Nassau BC/BS	BS/GHI	BS/GHI
35. X-ray colon	$70.70	$53.10	$75.00	$70.00	0.75	0.93
36. Cobalt 1/ 2/	---	25.00	35.40	25.00	---	0.71
37. Radiotherapy-supervoltages	---	25.00	---	25.00	---	---
38. Hemoglobin	3.00	4.00	3.00	3.00	1.33	1.00
39. Blood, white cell count	5.50	3.00	8.00	3.00	0.55	0.38
40. Complete blood count	7.00	8.00	10.00	10.00	1.14	1.00
41. Cholesterol blood test	5.50	8.00	5.00	7.00	1.45	1.40
42. Hematocrit	3.75	4.00	5.00	4.00	1.07	0.80
43. Prothrombin time test	7.00	8.00	5.00	6.00	1.14	1.20
44. Sedimentation rate	5.00	6.00	5.00	5.00	1.20	1.00
45. Blood sugar	5.00	7.00	5.00	7.00	1.40	1.40
46. BUN -blood urea nitrogen	5.00	8.00	5.00	7.00	1.60	1.40
47. Pap test	15.00	10.00	10.00	7.00	0.67	0.70

TABLE 10-2 (continued)

Comparison of FY 1976 Prevailing Charge Fees: Queens (GHI) vs. Nassau (BC/BS GNY Locality "E")

Procedure	GP		SP		GP	SP
	Queens GHI	Nassau BC/BS	Queens GHI	Nassau BC/BS	BS/GHI	BS/GHI
48. Urinalysis	$ 3.00	$ 6.00	$3.10	$5.00	2.00	1.61
49. EKG (electrocardiogram)	20.00	25.00	23.60	25.00	1.25	1.06
50. EEG (electroencephalogram)	47.20	59.40	47.20	60.00	1.26	1.27
Mean Ratio					1.12	1.01

1/ Differences between BC/BS GNY and GHI in definitions of procedure codes for which prevailing fees were reported make fee comparisons in these cases questionable.

2/ This procedure was listed as in the Medicare Directory of Prevailing Charges as code #7609, Cobalt. However, code #7603 appears in the CRVS schedule under the Superficial, Grenz or Low Voltage X-Ray Therapy while Cobalt appears under Supervoltage. We have interpreted this listing as a correct code number and an incorrect title.

Source: Medicare Directory of Prevailing Charges FY 1976, SSA, GHI, Division of Contract Operations.

amounts upon which reimbursement is based within the Medicare Part B program. Charge levels also reflect the influence of the Economic Index. Within each locality the prevailing charges are listed for general practitioners and for specialists separately.

Since carriers did not report all prevailing charges, only 33 procedures could be compared for GPs and 41 for specialists. In general, Nassau charges are higher than Queens charges. This was more often true for GPs than for specialists. For GPs, most medical and laboratory procedures had higher fees in Nassau. For specialists, Nassau fees tended to be higher except for radiology procedures. However the differences are small.

Table 10-3

Comparison of General Practitioner and Specialist Fees:

Procedures for which Prevailing Charges Were Available for Both Counties

Procedure Types	General Practitioners			Specialists		
	Number of Comparisons	Nassau Fees Higher Than Queens		Number of Comparisons	Nassau Fees Higher Than Queens	
		Number	Percent		Number	Percent
Medical	6	5	83.3	6	4	66.7
Surgical	11	6	54.5	19	12	63.2
Radiology	3	2	66.7	3	1	33.3
Laboratory	13	11	84.6	13	10	76.9
Total	33	24	72.7	41	27	65.9

The mean ratio of the Nassau prevailing fees to the Queens fees is 1.14 for general practitioners compared to 1.03 for specialists.

Comparison of measures of carrier performance [1/] in GHI-Queens and BC/BS-GNY (all localities) reveals several differences. During the period analyzed, there was a strike at GHI which lasted from January 1 to April 23, 1976, seriously affecting all aspects of Medicare administration. For this reason comparisons of average processing time and pending claims are omitted.

Of total claims received by the Blue plan 99.5% were processed during 1976. The GHI rate of only 88.7% (probably the result of the strike) is 9.9% below the national rate. BC/BS had a slightly higher percent of processed claims that were paid than GHI but both carriers were above the national average. The carriers had similar percents of claims applied toward the deductible but both were below the U.S. figure, especially for assigned claims; this reflects the higher level of charges in New York City.

The investigation rate for BC/BS was considerably higher than that for GHI and was above the national level of 11.0%. However, the percent of claims denied was higher for GHI.

The billed charge was reduced for 77.5% of Blue claims paid or applied toward the deductible as compared to 83.8% for GHI. BC/BS is closer to the national level. For both carriers, the proportion of claims reduced was higher for assigned claims, which was not true nationally. Figures for the average bill [2/] before and after reduction do not differ significantly between carriers. Both carriers are higher than the US average for assigned claims before and after reduction.

The GHI assignment rate is about 13 percentage points below BC/BS and 16 percentage points below the national level.

Methodological Limitations

Some information was totally unobtainable from the available data sources; extracting other types of information would have required unrealistic amounts

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1/ Data sources used are Part B Workload and Processing Time files.
2/ Calculations are based on aggregate data which do not permit consideration of procedure mix and the proportion of small claims.

Table 10-4

Comparison of Carrier Performance Measures

		U.S.A.	GHI New York	BC/BS Greater New York
1. Claims processed as percent of claims received:				
	Total	98.6%	88.7%	99.5%
	Assigned	98.8	88.8	99.0
	Unassigned	98.4	88.6	99.9
2. Claims paid as percent of claims processed:				
	Total	74.0%	75.7%	77.9%
	Assigned	75.5	80.1	83.4
	Unassigned	72.5	73.3	72.9
3. Claims applied toward deductible as percent of claims processed:				
	Total	19.9	16.9%	16.0%
	Assigned	19.2	10.6	10.5
	Unassigned	20.5	20.3	21.1

Table 10-4 (continued)

Comparison of Carrier Performance Measures

	U.S.A.	GHI New York	BC/BS Greater New York
4. Investigation rate:			
Total	11.0%	4.0%	12.3%
Assigned	7.1	4.1	10.8
Unassigned	15.1	4.0	13.7

	U.S.A.	GHI	BC/BS
5. Denial rate:			
Total	6.1%	7.4%	6.1%
Assigned	5.3	9.3	6.1
Unassigned	7.0	6.4	6.0
6. Percent of claims where billed charge was reduced:			
Total	75.8%	83.8%	77.5%
Assigned	73.2	84.8	78.1
Unassigned	78.5	83.3	77.0

Table 10-4 (continued)

Comparison of Carrier Performance Measures

	U.S.A.	GHI New York	BC/BS Greater New York
7. Average billed charge for total claims (paid and applied toward deductible):			
a. before reduction			
Total	$ 78.01	$ 81.30	$ 85.30
Assigned	72.36	100.90	101.50
Unassigned	84.14	70.90	70.30
b. after reduction			
Total	$ 63.33	$ 62.40	$ 65.00
Assigned	58.58	76.20	76.60
Unassigned	68.35	55.20	54.20
8. Assignment rate as percent of total claims processed:	51.1%	35.3%	48.2%

Source: Part B Workload and Processing Time File

of programming and computer time. The resulting limitations applied both to provider-oriented and beneficiary-oriented analysis. Subjects that could not be analyzed from the present data sources would be amenable to study using other data records and interview surveys; subjects that would take more time than was available could be studied in the future.

The limitations imposed on the reported study by the data source relate to: single-year data, diagnostic information, sequence of services, fine specialization and procedure description, group practice, solo practice referrals, and determination of revenue flows to individual practitioners. Since for both carriers a stream of consecutive calendar years of claims was not available, a continuous provider history could not be developed. The reliability of distributions would be improved by additional years of data. Actions of providers due to changes in variables such as practice location, board status, mix of patients seen, and absence from practice could not be explored. Demand for and supply of Medicare services could be affected, hence prevailings and revenues as well.

Lack of diagnostic information on utilization precluded study of variation in services associated with each diagnosis, and of charges and assignment practices by diagnosis. For example, whether providers in different specialties or even in the same specialty proceeded in identical ways in treating identically diagnosed illness could not be studied. While the tabulations presented below show that Nassau doctors provided more services per patient than did the doctors in Queens, it is not possible to show whether this means that Nassau and Queens doctors differ in their treatment of the same illness. Severity information also was lacking.

Comparisons between the counties did not cover group practices since only Nassau data identified them. Moreover, relationships of one solo practitioner

with other doctors, and the effect of cross-referral on use of services and on size and composition of workload for individual doctors, could not be examined.

Finally, the true payment received by physicians is unknown because Medicare records do not show whether the deductible and coinsurance as well as the portion of the fee above the allowed Medicare charge are collected. Physician revenue from unassigned claims theoretically is simply the submitted charge. For assigned claims, however, Queens "Medicare revenue" as used in this report is measured by the amount paid to the supplier - it is an underestimate insofar as the deductible and copayments are collected by the provider from the beneficiary. For Nassau, Medicare revenue on assigned claims is measured by the reasonable charge. This may be an overestimate if the deductible and coinsurance are not actually collected.

Information on the sequence of services for a given patient was limited partly because of lack of diagnostic information, and partly because of the way in which a claim record is constructed. It was not possible, for instance, to relate the successive utilization (from the patient's side) and performance (from the doctor's side) of diverse procedures to a given episode of illness or a chronic condition. Differences among practitioners as to the descriptions under which they report identical ministrations, and thus as to prevailings developed, and revenue generated, were not identifiable.

APPENDIX 10

TABLE 10-5

Glossary of Terms Used in the Micro Study

	Term	Definition or Specification	Operational Definition
1.	Procedure	A description of an action of a physician provider used primarily as a basis for pricing.	GHI-Claims History Extract File, positions (28-31) BC/BS-History File, positions (55-58)
2.	Service	An encounter between provider and beneficiary or other provider action relating to patient care and qualifying for reimbursement.	GHI-Claims History Extract File, position 27 BC/BS-History File, position 54 (See Table 6a)
3.	Health Insurance Claim (HIC) Number	Identification number of individual enrolled in Medicare program (Social Security number is used).	GHI-Claims History Extract File, positions (3-14) BC/BS-History File, positions (4-16)
4.	Number of Patients (Beneficiaries)	A count of different Health Insurance Claim (HIC) numbers within provider. (Patients seeing more than one provider are counted more than once.)	See #3
5.	Claim	A writing, identifying or permitting the identification of an enrollee, which requests reimbursement for what appears to be Part B medical or other health services furnished by a physician or supplier.	GHI-Claims History Extract File, position 47, Trans-Assgn-Ind BC/BS-History File, positions (22-24), Trans-Assgn-Ind
6.	Assigned claim	A claim in which the physician or supplier agrees to accept the reasonable charge determined by the carrier as the "full charge" for the items or services.	GHI-Claims History Extract File, position 47, Trans-Assgn-Ind Ø BC/BS-History File, positions (22-24), batch number 100-399.

TABLE 10-5 (continued)

Glossary of Terms Used in the Micro Study

	Term	Definition of Specification	Operational Definition
7.	Unassigned claim [a/]	A claim in which the physician is paid directly by the beneficiary,who in turn may be reimbursed by the Medicare program.	GHI-Claims History Extract File, position 47, Trans-Assgn-Ind 2 BC/BS-History File, positions (22-24), batch number 400-699. For batch number 700-799, assignment status is unknown.
8.	Total claims (Assigned + unassigned) [a/]	The total of assigned plus unassigned claims.	#6 + #7
9.	Percent assigned claims [a/]	Percent of total claims which are assigned.	(#6 ÷ #8) x 100
10.	Assigned revenue [a/]	Provider revenue from assigned claims, defined as amount paid to supplier(GHI) and reasonable charge (BC/BS).	GHI-Claims History Extract File, positions (74-79), amount paid supplier BC/BS-History File, positions (90-93), allowed charge
11.	Unassigned revenue	Provider revenue from unassigned claims, defined as submitted charges.	GHI-Claims History Extract File, positions (32-37), submitted charge BC/BS-History File, positions (59-62), submitted charge
12.	Total revenue (Assigned + unassigned)	Provider revenue from all claims-assigned plus unassigned.	#10 + #11
13.	Percent assigned revenue [a/]	Percent of total revenue which is assigned.	(#10 ÷ #12) x 100
14.	Revenue per assigned claim [a/]	Revenue from assigned claims divided by the number of assigned claims.	#10 ÷ #6
15.	Revenue per unassigned claim [a/]	Revenue from unassigned claims divided by the number of unassigned claims.	#11 ÷ #7

TABLE 10-5 (continued)

Glossary of Terms Used in the Micro Study

Term	Definition or Specification	Operational Definition
16. Total submitted charges	Provider charges for Medicare services as submitted to carriers.	GHI-Claims History Extract File, positions (32-37) BC/BS-History File, positions (59-62)
17. Submitted charge per patient	Total of submitted charges divided by the number of patients (See #4.)	#16 ÷ #3
18. Assigned outlay [a/]	Medicare payment to providers and beneficiaries for assigned claims.	GHI-Claims History Extract File, positions (74-79), amount paid supplier BC/BS-History File, positions (90-93), allowed charge x .80
19. Unassigned outlay [a/]	Medicare payment to providers and beneficiaries for unassigned claims.	GHI-Claims History Extract File, positions (68-73), amount paid beneficiary BC/BS-History File, positions (90-93), allowed charge x .80
20. Total outlay [b/]	Medicare payment to providers and beneficiaries for assigned plus unassigned claims.	#18 + #19
21. Specialty	Area of specific practice of physicians identified by carrier code used in provider master file.	GHI-Claims History Extract File, positions (64-65) BC/BS-History File, positions (69-70) (See Table 7)
22. Specialty type	General area of physician practice with individual specialties grouped in four areas: general practice, medical, surgical, and other. (See Table 7)	(See Table 7)

TABLE 10-5 (continued)

Glossary of Terms Used in the Micro Study

Term	Definition or Specification	Operational Definition
23. Place of service [c/]	Location where physicians supply and patients receive services. For analysis, reported place of service data were grouped to show office only, hospital only, both hospital and office, and neither office or hospital.	GHI-Claims History Extract File, positions 24 BC/BS-History File, positions (52-53) (See Table 6b)

a/ For BC/BS, claims unidentified as to assignment status were excluded for claims and revenue variables. Therefore, totals for claims and revenue are equal to assigned plus unassigned.

b/ Program outlay for BC/BS is estimated as 80% of the reasonable charge, which is an overestimate to the extent of the deductible, which is paid by the beneficiary. For GHI it is the amount paid to either the supplier or beneficiary.

c/ Physicians were classed as "office" if they rendered service in nursing homes and patient homes as well as in offices - as long as there were no hospital-based services. Similarly, physicians were classed as "hospital" even if they also provided care in residences and nursing homes - as long as there was no office care.

TABLE 10-6

Procedure Code Conversion Table

		BC/BS	GHI
(9)	Biopsy-Skin	0171	0171
(10)	Radical Mastectomy	0470	0470
(11)	Multiple Pinning Femur*	0868	0883
(12)	Arthrocentesis*	1046	1046
(13)	Puncture of Bursa	1413	1413
(14)	Bronchoscopy	2111	2111
(15)	Thoracentesis	2183	2183
(17)	Inserting Pacemaker	2308	2335
(16)	Right Heart Catheterization **	2331	2331
(19)	Colectomy*	3178	3178
(20)	Appendectomy	3261	3261
(21)	Proctosigmoidoscopy*	3311	3311
(23)	Cholecystectomy	3515	3515
(24)	Hernioplasty*	3631	3631
(25)	Cystoscopy	3931	3931
(26)	Dilation of Urethra	4031	4031
(27)	Prostatectomy	4316	4316
(28)	Resection of Prostate *	4321	4321
(29)	Hysterectomy	4631	4631
(30)	Lens Extraction *	5613	5613
(31)	Radiology-Chest	7100	7100
(32)	Radiology-Lumbar**	7210	7210
(33)	Radiology-Hip**	7301	7301
(34)	Radiology-Upper GI *	7358	7358
(35)	Radiology-Colon	7360	7360
(36)	Radiation Therapy-Low Volt**	7600	7603

TABLE 10-6 (continued)

Procedure Code Conversion Table (continued)

		BC/BS	GHI
(38)	Hemoglobin	8622	8622
(39)	White Cell Count	8624	8624
(40)	Complete Blood Count*	8628	8628
(41)	Cholesterol	8652	8652
(42)	Hematocrit	8681	8681
(43)	Prothrombin Time	8708	8708
(44)	Sedimentation Rate	8720	8720
(45)	Blood Glucose	8726	8726
(46)	Blood Urea Nitrogen	8741	8696
(47)	Pap Smear*	8917	8917
(48)	Urinalysis	8934	8934
(7)	Routine Initial Hospital Visit*	9000	9012
(8)	Follow-up Hospital Visit	9001	9005
(1)	Initial Office Visit-Routine, New	9020	9016
(4)	Follow-up Office Visit-Routine	9021	9000
(2)	Office Visit-Comprehensive*	9022	9019
(5)	Day Home Visit, Initial or Subsequent*	9032	9024
(49)	EKG*	9300	8983
(50)	EEG	9301	8990

* Fourteen procedures selected for simulation.

** For these procedures, correct codes have been substituted for those supplied by GHI to BHI, which were erroneous.

Only 45 most frequent procedures are included for both GHI and BC/BS codes.

TABLE 10-7

Queens and Nassau Codes for Place of Service

Place of Service	Code RC/BS	Code GHI
Office	OB, KB	1
Home	HB	2
Inpatient hospital	IH, WB	3
Extended care facility	EC, SB	4
Outpatient hospital	OH, CB	5
Independent laboratory	IL, LB	6
Other	OL, XB	7
Nursing home	NH, NB	8

Queens and Nassau Codes for Type of Service

Type of Service	Code BC/BS	Code GHI
Other medical services	Ø	9
Surgery	1	2
Assistance at surgery	2	8
Anesthesia	4	7
Diagnostic X-ray	5	4
Radiation therapy	5	6
Medical care	6,7	1
Diagnostic laboratory	8	5
Consultation	9	3

TABLE 10-9

Queens and Nassau Codes for Specialty Groupings

Specialty Type and Specialty	Code GHI	Code BC/BS-GNY
I General practitioner		
General practice	01	50
Family practice	08	51
Manipulative therapy (osteopaths only)	12	-
II Medical specialties		
Allergy	03	21
Cardiovascular diseases	06	22
Dermatology	07	02
Gastroenterology	10	23
Internal medicine	11	20
Infectious diseases	11	25
Endocrinology	11	26
Hematology	11	28
Oncology	11	29
Internist (not a board member)	11	95
Osteopath (specialist)	11	96
Pediatrics	37	45
Pulmonary diseases	29	24
III Surgical specialties		
General surgery	02	10
Neurological surgery	14	03
Obstetrics and gynecology	16	05
Gynecology (osteopaths only)	09	05
Obstetrics (osteopaths only)	15	05
Ophthalmology	18	04
Orthopedic surgery	20	07
Otolaryngology	04	06
Otolaryngology (osteopaths only)	17	06
Plastic surgery	24	09

TABLE 10-9 (continued)

Queens and Nassau Codes for Specialty Groupings

Specialty Type and Specialty	Code GHI	Code BC/BS-GNY
III (cont.)		
Colon surgery (proctology)	28	38
Anorectal surgery	28	39
Thoracic surgery	33	11
Urology	34	12
Hand surgery	40	-
IV Other specialties		
Anesthesiology	05	01
Neurology	13	35
Pathology	22	30
Clinical pathology	22	31
Pathologic anatomy	22	32
Physical medicine	25	08
Psychiatry	26	36
Radiology	30	40
Nuclear medicine	36	-
Geriatrics	38	-
Nephrology	39	27
Miscellaneous physician	49	-
Pathologic anatomy; clinical pathology (osteopaths only)	21	-
Peripheral vascular diseases or surgery (osteopaths only)	23	-
Psychiatric neurology a/	27	34
Diagnostic roentgenology	31	42
Roentgenology	31	42
Therapeutic roentgenology	32	43

a/ For GHI, osteopaths only.

TABLE 10-10

Comparison of Fees for 50 Selected Procedures, Medicare-Queens and Medicaid-N.Y.C. [1/]

BHI Code	Medicaid Procedure Code	Fees FY 1976 Medicare Prevailing GP	SP	Medicaid* $
(1) Initial office visit-routine, new patient	9000	$11.80	$25.00	$ 7.80
(2) Office visit-comprehensive, new patient	9002			12.00
	9002B-up to 45 minutes	23.60	35.00	15.00
	9002M-46 minutes to one hour	----	----	20.00
	9002E-more than one hour	----	----	25.00
(4) Follow-up office visit-routine [2/]	9004	10.00	15.00	7.50
(5) Routine, follow-up brief home visit	9011	15.00	20.00	7.00
(7) Comprehensive initial hospital visit	9020	25.00	41.30	6.50
(8) Routine, follow-up brief hospital visit [2/]	9021	15.00	17.70	5.00
(9) Biopsy-skin [1/]	0171	38.00	50.00	12.00
(10) Radical mastectomy	0470	766.40	884.30	280.00
(11) Multiple pinning femur	0868	----	1,140.00	320.00
(12) Arthrocentesis	1046	20.00	23.75	8.00
(13) Puncture of bursa	1413	17.70	25.00	8.00
(14) Bronchoscopy [1/]	2111	----	250.00	60.00
(15) Thoracentesis	2183	70.70	100.00	12.00
(16) Right heart catheterization [2/]	2330			

TABLE 10-10 (continued)

Comparison of Fees for 50 Selected Procedures, Medicare-Queens and Medicaid-N.Y.C. 1/

BHI Code	Medicaid Procedure Code	Fees FY 1976 Medicare Prevailing GP	SP	Medicaid* $
(17) Inserting pacemaker	2356	----	300.00	$400.00
(19) Colectomy	3178	----	1,000.00	400.00
(20) Appendectomy	3261	400.00	450.00	160.00
(21) Proctosigmoidoscopy	3310	29.50	41.30	12.00
(23) Cholecystectomy	3515	600.00	707.40	240.00
(24) Hernioplasty	3631	332.00	471.60	140.00
(25) Cystoscopy	3930	----	53.00	20.00
(26) Dilation of urethra	4031	15.00	20.00	12.00
(27) Prostatectomy	4316	----	850.00	320.00
(28) Resection of prostate	4321	----	825.00	320.00
(29) Hysterectomy	4631	586.00	648.50	240.00
(30) Lens extraction	5611	----	800.00	320.00
(31) Radiology-Chest	7100	20.00	25.00	15.00
(32) Radiology-Lumbar 2/	7210			
(33) Radiology-Hip 2/	7300			
(34) Radiology-Upper GI	7356	70.00	75.00	30.00
(35) Radiology-Colon	7360	70.70	75.00	25.00
(36) Radiation therapy-low volt 2/	7600			
(38) Hemoglobin	L112	3.00	3.00	1.60
(39) White cell count	L113	5.50	8.00	2.00

Comparison of Fees for 50 Selected Procedures, Medicare-Queens and Medicaid-N.Y.C.[1/]

BHI Code	Medicaid Procedure Code	Fees FY 1976 Medicare Prevailing GP	SP	Medicaid* $
(40) Complete blood count	L115	$ 7.00	$10.00	$ 5.00
(41) Cholesterol	L126	5.50	5.00	4.00
(42) Hematocrit	L146	3.75	5.00	1.60
(43) Prothrombin time	L187	7.00	5.00	2.80
(44) Sedimentation rate	L194	5.00	5.00	2.50
(45) Blood glucose	L198	5.00	5.00	2.50
(46) Blood urea nitrogen	L225	5.00	5.00	2.50
(47) Pap smear	L500	15.00	10.00	6.30
(48) Urinalysis	L577 L578	3.00	3.10	1.30 1.30
(49) EKG	9101	20.00	23.60	15.00
(50) EEG	9330	47.20	47.20	35.00

1/ This list is extracted from the Fee Screen Year 1976 list of fifty procedures. Procedures included are those whose definitions by Part B carriers GHI and BC/BS - GNY are comparable.

2/ These are substitutes for the codes supplied by GHI to BHI which were erroneous.

*Medicaid RVUs converted as follows:
1 RVU = $5.00 for medicine and radiology
1 RVU = $4.00 for surgery

TABLE 10-11

DATA PROCESSING
PROGRAM DOCUMENTATION AND
OPERATING PROCEDURES MANUAL

SECTION
PAGE 14
DATE DOCUMENTED 3/74
DATE REVISED
CHANGE NOTICE NO.

SYSTEM TITLE:	SYSTEM ID:
PROFILE DEVELOPMENT SYSTEM	PDS
PROGRAM TITLE:	**PROGRAM ID:**
HISTORY EXTRACT PLUG PROGRAM	MOD9R

FILE DESCRIPTION AND RECORD LAYOUT

FILE NAME: HISTORY EXTRACT FILE 1
RECORD NAME: EXTRACT 1
RECORD LENGTH 97
MODE: Tape
SEQUENCE: REC ID, PROV NO.; PROC/TYPE
OUTPUT OF: MOD9QA
INPUT TO: MOD9R

FIELD NAME	POSITION(S) IN RECORD	NUMBER OF CHARACTERS	JUSTIFIED	DATA TYPE
REC ID (R1)	1-2	2		A/N
HIC NUMBER	3-14	12		A/N
SERVICE FROM DATE	15-18	4		N
SERVICE TO DATE	19-23	5		N
SERVICE PLACE	24	1		N
NUMBER OF SERVICES	25-26	2		N
SERVICE TYPE	27	1		N
PROCEDURE CODE	28-31	4		A/N
CHARGE SUBMITTED	32-37	6		N
CHG-PER-SERVICE	38-43	6		N
ACTION CODE	44-45	2		A/N
PSY-RAD-IND	46	1		A/N
TRANS-ASSGN-IND	47	1		A/N
PROVIDER NUMBER	48-57	10		A/N
DATE ENTERED DP	58-61	4		A/N
LINE FORCE CODE	62	1		A/N
TYPE BOARD CERT	63	1		A/N
SPECIALTY CODE	64-65	2		A/N
AREA CODE	66-67	2		A/N
AMOUNT PAID BENE	68-73	6		N
AMOUNT PAID SUPPLIER	74-79	6		N
REL VAL UNITS	80-83	4		N
REJECT CODE	84	1		N
CONTROL NUMBER	85-93	9		N
EXPANSION AREA	94-97	4		A/N

DATASET DESCRIPTION

Dataset Name: HISTORY FILE TEST.HBØ.AMDS554Ø

Internal I. D.

Detail Record

Notes/Sequence/Datafile:
P = PACKED
C = CHARACTER

Date

	Data Name	Required	Picture	Positions Displacement From	Thru	Bytes	Remarks	GHI Positions	GHI No. of bytes
1	Intermediary Number		P	1	3	3	PIC S9(5)	1-2CR1	2
2	HIC		C	4	16	13		3-14	12
3	ICN		C	17	27	11	(17-21 '5 (22-24 '3	58-61 47	4 1
4	Record I.D.		C	28	28	1	17-27 11 Value 'ø'	85-93	9
5	Detail Number		C	29	30	2		-	-
6	Action Code•		C	31	32	2	Value 'P6' & 'H6'	44-45	2
7	Clerk Number		C	33	36	4	-	-	-
8	Provider Initials		C	37	38	2		-	-
9	Provider Number		C	39	47	9		48-57	10
10	Service Date		S9(6)	48	51	4(6)	COMP-3	19-23	4
11	Place os Service		XX	52	53	2		24	1
12	Type of Service		X	54	54	1		27	1
13	Procedure Code		XXXX	55	58	4		28-31	4
14	Submitted Charge		S9(5)V99	59	62	4	COMP-3	32-37	6
15	RC/MS Code multiple service		999	63	65	3		25-26	2
16	Location Code		XXX	66	68	3		66-67	2
17	Specialty Code		XX	69	70	2		64-65	2
18	Type Doctor		X	71	71	1		-	-
19	Doctor Status		X	72	72	1		-	-
20	MC/Code		XX	73	74	2	except	-	-
21	RC Level 1		X	75	75	1		-	-
22	RC Level 2		X	76	76	1		-	-
23	RC Level 3		X	77	77	1		-	-
24	Cumulative Charge		S9(5)V99	7	81	4	COMP-3 Amt. paid to Date	-	-

Table 10-12 (continued)

DATASET DESCRIPTION

Dataset Name: HISTORY FILE TEST.HBØ.AMDS554Ø

Internal I. D.:

Detail Record

Notes/Sequence/Datafile:

P = PACKED
C = CHARACTER

Date

	Data Name	Required	Picture	Positions Displacement From	Thru	Bytes	Remarks	GHI Position	GHI bytes
25	Prevailing Charge		S9(5)V99	82	85	4	COMP-3 Amt. to be Paid	-	-
26	Computed Charge (R/C Amount)		P	86	89	4	PIC S9(5)V99	68-73 74-79	6 6
27	Adjusted Amount Charge		P	90	93	4	PIC S9(5)V99	-	-
28	Conversion Factor		P	94	96	3	PIC S9(5)	-	-
29	Relative Value		P	97	99	3	PIC S9(5)	-	-
30	Suspense Status - Flag A		C	100	100	1		-	-
31	Suspense Status - Flag B		C	101	101	1		-	-
32	Suspense Status - Flag C		C	102	102	1		-	-
33	Suspense Status - Flag D		C	103	103	1		-	-
34	Suspense Status - Flag		C	104	104	1		-	-
35	Last Manual Action		C	105	106	2		-	-
36	Region Code (Duplicate Info)		C	107	108	2		-	-
37	ICN (Duplicate Info) Int.control No.		C	109	119	11		-	-
38	Paid Date (Duplicate Info)		P	120	123	4	PIC S9(7) OYYMMDD	-	-
39	Last Action Date		P	124	127	4	PIC S9(7) OYYMMDD	-	-
40	Last Action Code		C	128	128	1		-	-
41	Type Detail		C	129	129	1		-	-
42	Medical Assistance Number		C	130	141	12	CMAP	-	-
43	Okla. Welfare/Travelers Ins. Code		C	142	142	1		-	-
44.	Region code		C	143	144	2		-	-
45	FILLER		C	145	153	9		-	-

Table 10-13

DATASET CRIPTION

Dataset Name: EDSDS.HBO.BESTALFA

Notes/Sequence/Datafile:

Page 1 \

Date

Internal I. D.: BEST Name and Address Record

Data Name	Required	Picture	Positions Displacement From	Positions Displacement Thru	Bytes	Remarks
Last Name		CL12	1	12	12	
First Name		CL10	13	22	10	
Middle Initial		CL1	23	23	1	
HIC		CL11	24	34	11	
Filler		CL1	35	35	1	Blank
Previous HIC Subscript		CL2	36	37	2	
Date of Birth		CL6	38	43	6	MMDDYY
State Buy-In Indicator		CL1	44	44	1	Blank or '5' = State Buy-In
Sex		CL1	45	45	1	1 = Male, 2 = Female, 3 = Unknown
Railroad Indicator		CL1	46	46	1	R = Railroad, Blank = Not RRB
Zip Code		CL5	47	51	5	
Filler		CL2	52	53	2	Blank
Address		CL69	54	122	69	
Filler		CL2	123	124	2	Blank
Record Mark		CL1	125	125	1	X'E0'

8182 3/74

HEALTH SERVICES ADMINISTRATION

File Layout

REVISION NO.	PAGE 10-46 OF
PREPARED BY J. SCHWENDEMAN	DATE 4-19-77
APPROVED BY	DATE

SYSTEM: MEDICAID PROVIDER PROFILE SYSTEM

FILE NUMBER _____ FILE NAME NEW FILE

FIELD	MODE	SIZE	POSITION FROM	POSITION TO
PATIENT I-D	C	8	1	8
PAY CYCLE	C	3	9	11
NOT REIMBURSED	C	1	12	12
INVOICE NO.	C	6	13	18
FILLER	C	1	19	19
PROVIDER NO	C	9	20	28
SERVICE DATE	C	6	29	34
SERVICE CODE	C	6	35	40
PATIENTS FIRST NAME	C	10	41	50
PATIENTS YEAR OF BIRTH	C	2	51	52
AMOUNT CLAIMED	N	6	53	58
FILLER	C	12	59	70
AMOUNT APPROVED	N	6	71	76
TRANS. NO	C	6	77	82
SEX	C	1	83	83

TABLE 10-14

CHAPTER 11

SIMULATION STUDIES

Chapter 11 describes the portion of the micro study in which the fee effects of alternative carrier choices in the reasonable charge process are tested. GHI's current programs are used as a benchmark. Simulation techniques are applied to evaluate the effects of the following carrier options: parameters defining minimum numbers of charges and extreme values, merging non-Medicare with Medicare claims; and specialty designation. In addition, the net effect on fees of the BC/BS program as a whole compared to the GHI program, and the effect of alternative locality boundaries are tested. The final simulation trial evaluates the effect of the economic index.

Method

In studying the Medicare reasonable charge process in two neighboring counties, Queens (GHI) and Nassau (BC/BS), claims for 14 selected procedures were used and GHI reasonable charge programs were applied. The parameters used by GHI were used as a benchmark. The data for which the prevailing charges were computed consisted of these claims, which were selected from the list of 50 most frequently used procedures as reported in the Medicare Directory of Prevailing Charges. The basis of selection was discussed in Chapter 10. We aimed for a representative sample of procedures for which GHI and Blue definitions were comparable. For each test of carrier practices, the number of possible comparisons was determined by available information for relevant procedure/specialty/type of service combinations. We evaluated the effect of the following carrier discretionary practices on reasonable charges:

- changing the definition of extreme charges (outliers)
- changing the minimum number of charges needed to form a customary
- changing the minimum number of customaries required to form a prevailing
- merging Medicare data with non-Medicare business
- carrier computer programs
- locality designation
- specialty designation
- economic index adjustment

To test the significance of the effect of change in each practice, the Wilcoxon Matched Pairs Signed Ranks Test was used.[1/] This test was selected because it takes into account both the magnitude and the direction of the dif-

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1/ Sidney Siegel, Non-parametric Statistics for the Behavioral Sciences, McGraw Hill, 1956, pp. 75-83.

ference between two data sets.

The measures on which the significance tests were performed were as follows:

- the 50th percentile of the weighted distribution of customaries
- the 75th percentile (unadjusted prevailing) of the weighted distribution of customary charges
- the number of doctors included in the computation of the prevailing charges
- the highest customary charge included in the computation of the prevailing charges
- the lowest customary charge included in the computation of the prevailing charges

Tests of the effect of changing parameters used in computation of reasonable charges - extreme values, minimum needed to form a customary, and minimum needed to form a prevailing - were performed only on Medicare claims for CY 1976 supplied by GHI. The effect of inclusion of non-Medicare data in computation of reasonable charges was tested for GHI only using both Medicare and non-Medicare data for CY 1976 which GHI used to compute FSY 1978 prevailings.

The overall effect of carrier computer programs was evaluated using the BC/BS CY 1974 claims for Nassau. The FSY 1976 prevailings computed by the carrier were compared to those obtained by putting Blue CY 1974 claims through GHI programs. The effect of differences in parameters used by the two carriers in computation of FSY 1978 prevailings is incorporated.

The effect of locality designation was tested by using data provided by both carriers for CY 1976. Since BC/BS uses only Medicare claims to compute prevailings, only Medicare data of GHI were used in this comparison.

The effect of specialty designation was evaluated by using GHI Medicare

data to develop prevailings for individual specialties and comparing these to standard GHI specialty groupings. The influence of economic index adjustment was tested by comparing FSY 1978 unadjusted and adjusted prevailings as provided by GHI.

Effect of Parameter Changes on Prevailing Fees

In evaluating the effect of changes in parameters the prevailings based on GHI programs and parameters (as used by GHI to compute FSY 1978 prevailings) were considered the benchmark to which all the other computed prevailings were compared. Only the parameter being tested is changed in each test, while all the others remain as used by the carrier. The parameters used by GHI in its computation of prevailings were:

- claims not within two standard deviations from the mean were excluded from the computation of each physician's customary (S_2)
- four charges were required to form a customary, if all charges were different, and three if two were alike ($C_{4,3}$)
- five valid customaries were required to form a prevailing (P_5)

The following values of parameters were utilized in our test:

Extreme values:

- values outside one standard deviation from the mean (S_1)
- values outside three standard deviations from the mean (S_3)

Number required to form a customary:

- one claim (C_1)
- five claims (C_5)
- ten claims (C_{10})

Number required to form a prevailing:

- one customary (P_1)
- three customaries (P_3)
- nine customaries (P_9)

Change in Definition of Extreme Values

S_1 vs. S_2

Under the current parameters of two standard deviations from the mean used to exclude outlying charges, 80 combinations of procedure, specialty and type of service were created in 1978 computations of prevailings by GHI.[1/]

If charges that lie outside one standard deviation from the mean are excluded, fewer prevailings can be created. Only 76 hypothetical prevailings could therefore be compared with the values that GHI actually developed. Change to a one standard deviation parameter implies less toleration of extreme values in determining reasonable charges. There was no significant difference at either the 50th or the 75th percentile. However, statistically significant differences were found with regard to the number of doctors whose customaries were used to compute the prevailing. Fewer doctors were used in 70% of the comparisons and in the remaining 30% there was no change. Another significant difference was in the highest charges included in the 76 computations; in more than half of the cases this charge was reduced. The result was similar for the lowest charges included. That is, outliers in both directions are affected by a tighter parameter but prevailings are not affected.

S_3 vs. S_2

Excluding charges that lie outside of three standard deviations from the mean yields the same number of hypothetical prevailings as those developed by GHI. This hypothetical change implies more toleration of extreme values. No significant differences were seen at the 50th and 75th percentiles and the number of doctors used in the prevailings was not affected by this change in parameter. Statistically significant differences were found in the comparison of

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1/ See Appendix to Chapter 10 for description of relevant codes.

TABLE 11-1

Change of Standard Deviation Parameters Compared to Benchmark [a/]

	$S_1C_{4,3}P_5$	$S_3C_{4,3}P_5$
50th Percentile		
Number of possible comparisons	76	80
Number of negative differences	4	0
Number of positive differences	4	2
Level of significance (Wilcoxon)	0.3631	0.0899
75th Percentile		
Number of possible comparisons	76	80
Number of negative differences	3	0
Number of positive differences	4	1
Level of significance (Wilcoxon)	0.3999	0.1587
Number of Doctors		
Number of possible comparisons	76	80
Number of negative differences	53	0
Number of positive differences	0	0
Level of significance (Wilcoxon)	0.0000*	N.A.
High Customary Charge		
Number of possible comparisons	76	80
Number of negative differences	39	0
Number of positive differences	0	23
Level of significance (Wilcoxon)	0.0000*	0.0000*
Low Customary Charge		
Number of possible comparisons	76	80
Number of negative differences	0	13
Number of positive differences	42	0
Level of significance (Wilcoxon)	0.0000*	0.0007
Number of cases for Benchmark $S_2C_{4,3}P_5$	80	80
Number of cases for test	76	80

a/ S_2 - standard deviations

$C_{4,3}$ - Minimum of 4 charges or 3 charges (if two are alike) to form a customary

P_5 - Minimum of 5 valid customaries to form a prevailing.

* This figure is significant at a level beyond 4 decimal places.
N.A. - Not applicable as there are no differences to compare.

Sources: DUD112, 8/10/78; DUD113, 8/10/78.

the highest charges; in 23 of the 80 cases the charges were increased; in the remaining cases they were identical. As for the lowest charges included in the computation of prevailings, they were reduced in 13 cases by the change in parameters and identical in 67 cases. The looser parameter is somewhat more likely to bring in high values than to bring in low ones, which is to be expected in a positively skewed distribution.

Change of Customary Parameters

C_{01} vs. $C_{4,3}$

The customary charge is the median of submitted charges of a given physician for a procedure. Four observations were required to compute a valid customary (three, if two were equal). Reducing the required number of observations means that more customaries can be created and ultimately prevailings will be affected, too.

The number of prevailings computed when there are no restrictions on the number of claims needed to form a customary is 109 versus 80 when the benchmark parameters are used and some physicians don't have the minimum number of charges needed to form a customary. No statistically significant differences were found with regard to the 50th and 75th percentiles. The number of doctors whose customaries were included in the computation of the prevailing charge was greater in 98% of the comparisons. Reducing the number of instances required would be expected to bring in more doctors with extreme customary charges. In fact, in almost half of the cases, the highest charge was raised by this change in parameter, but the lowest charges were reduced in 1/5 of the 80 comparisons. The implication is that the looser parameter shifts the distribution of customaries towards higher values more often than towards lower values.

C_{05} vs. $C_{4,3}$

When the number of claims necessary to form a customary is five, a smaller

TABLE 11-2

Change of Customary Parameters Compared to Benchmark [a/]

	$S_2C_{01}P_5$	$S_2C_{05}P_5$	$S_2C_{10}P_5$
50th Percentile			
Number of possible comparisons	80	64	54
Number of negative differences	3	4	9
Number of positive differences	2	0	1
Level of significance (Wilcoxon)	0.1726	0.0339	0.0264
75th Percentile			
Number of possible comparisons	80	64	54
Number of negative differences	1	0	4
Number of positive differences	3	0	0
Level of significance (Wilcoxon)	0.1367	N.A.	0.0339
Number of Doctors			
Number of possible comparisons	80	64	54
Number of negative differences	0	61	52
Number of positive differences	78	0	0
Level of significance (Wilcoxon)	0.0000*	0.0000*	0.0000*
High Customary Charge			
Number of possible comparisons	80	64	54
Number of negative differences	0	7	24
Number of positive differences	37	0	0
Level of significance (Wilcoxon)	0.0000*	0.0090	0.0000*
Low Customary Charge			
Number of possible comparisons	80	64	54
Number of negative differences	16	0	0
Number of positive differences	0	7	13
Level of significance (Wilcoxon)	0.0002	0.0090	0.0007
Number of cases for Benchmark $S_2C_{4,3}P_5$	80	80	80
Number of cases for test	109	64	54

a/ S_2 - 2 standard deviations

C_3 - Minimum of 4 charges or 3 charges if two are alike to form a customary

P_5 - Minimum of 5 valid customaries to form a prevailing.

* This figure is significant at a level beyond four decimal places.
N.A. - Not applicable as there are no differences to compare.

Source: DUD114, 115 and 116, 10 August 1978.

number of prevailings is computed - 64 versus 80 for the benchmark. Significant differences are found on all measures but the 75th percentile. The 50th percentiles are lower in 4 cases and the same in all the rest. The number of doctors whose customaries were used to produce the prevailing is smaller in 61 out of the 64 possible comparisons. The highest charges are lower in 7 out of 64 comparisons, while the lowest charges are higher in the same proportion of cases, indicating a tighter distribution of customaries.

C_{10} vs. $C_{4,3}$

When the minimum number of charges required for computing a customary is increased, fewer customaries are produced and there is a possibility that fewer prevailings can be created. In this simulation only 54 hypothetical prevailings ultimately were created that could be compared with prevailings developed using existing parameters.

For the 50th percentile there is a statistically significant difference, as 9 of the 54 comparisons had lower prevailings. Fewer differences occurred at the 75th percentile comparison. In almost all of the comparisons the number of doctors whose customaries were used in computing the prevailing was significantly less. The highest customary in the distribution was reduced in almost 1/2 the cases, but the lowest charge was raised in about 1/4 of cases and not affected in the rest. The implication is that doctors infrequently performing a Medicare procedure are more likely to charge "above market" than below.

Change of Prevailing Parameters

P_1 vs. P_5, P_3 vs. P_5, P_9 vs. P_5

Changing the number of valid customaries used to compute the prevailing charges had no effect on the 50th and 75th percentile fees. Of course, the number of doctors represented changes, going down as the number of customaries required was increased. The current standard calls for five customaries.

Change of Prevailing Parameters Compared to Benchmark [a/]

	$S_2C_{4,3}P_1$	$S_2C_{4,3}P_3$	$S_2C_{4,3}P_9$
50th Percentile			
Number of possible comparisons	80	80	59
Number of negative differences	0	0	0
Number of positive differences	0	0	0
Level of significance (Wilcoxon)	N.A.	N.A.	N.A.
75th Percentile			
Number of possible comparisons	80	80	59
Number of negative differences	0	0	0
Number of positive differences	0	0	0
Level of significance (Wilcoxon)	N.A.	N.A.	N.A.
Number of Doctors			
Number of possible comparisons	80	80	59
Number of negative differences	0	0	0
Number of positive differences	0	0	0
Level of significance (Wilcoxon)	N.A.	N.A.	N.A.
High Customary Charge			
Number of possible comparisons	80	80	59
Number of negative differences	0	0	0
Number of positive differences	0	0	0
Level of significance (Wilcoxon)	N.A.	N.A.	N.A.
Low Customary Charge			
Number of possible comparisons	80	80	59
Number of negative differences	0	0	0
Number of positive differences	0	0	0
Level of significance (Wilcoxon)	N.A.	N.A.	N.A.
Number of cases for Benchmark $S_2C_{4,3}P_5$	80	80	80
Number of cases for test	126	92	59

a/ S_2 - 2 standard deviations

$C_{4,3}$ - Minimum of 4 charges or 3 charges if two are alike to form a customary.

P_5 - Minimum of 5 valid customaries to form a prevailing.

* This figure is significant at a level beyond four decimal places.
N.A. - Not applicable as there are no differences to compare.

Source: DUD117, 118 and 119, 10 August 1978.

The most important effect of changing the number of customaries required is the number of prevailings computed. It changes from 126 when only one customary is required to compute a prevailing to 92 when three are required, 80 when five, and 59 when nine customaries are required to compute a prevailing. This means that as the number of customaries required to form a prevailing is increased, fewer prevailings will be computed by the reasonable charge process and supplementary methods have to be developed to complete the price structure. This involves more administrative cost.

Discussion of Effect of Parameter Changes

a. Extreme values

The change in parameter defining extreme values does not have a significant effect on either the 50th percentile or the prevailing, but the number of doctors is significantly affected.

The value of prevailings computed is not greatly affected when the minimum number for customaries is reduced to one (no minimum) or increased to five; when it is increased to 10, however, a significant effect on the value of prevailings is produced. The 50th percentile is much more sensitive to the change.

The number of prevailings that can be computed is greatly affected by the parameter; as the minimum increases, i.e., a higher number of claims is required to form a customary, the number of prevailings goes down from 109 for no minimum, to 80 for 4, 64 for 5, and 54 for 10 claims. As more claims are required to form a customary, fewer procedures will have a prevailing computed by the reasonable charge program and supplementary means of obtaining prevailings for these procedures are required.

The number of doctors with customaries is significantly modified by the change in parameter, as is to be expected, and goes down as the required minimum increases. This implies that as the minimum increases, more doctors are outside the standard reasonable charge determination process. The extent to which this would occur would vary among procedures.

b. Minimum numbers

As the minimum number of claims required to form a customary increases, the distribution of customaries is tighter, i.e., the extreme values are closer to the measures of central tendency.

The change in the number of customaries required to form a prevailing affects only the number of prevailings that can be computed. As the number required goes up the number of prevailings goes down, with the result that an auxiliary method is required for reasonable charge determination.

Effect of Merging Non-Medicare Charges

Carriers are required to merge or compare Medicare claims with their non-Medicare business. Not all carriers are in a position to do this effectively because of the nature of their private business. 1/ GHI-New York is one of the carriers that merges its private business data with Medicare claims to compute the prevailings. The number of non-Medicare claims included is about a tenth of the number of Medicare claims. Not all non-Medicare business is included by GHI in its computation because of differences in coding and processing of the claims. In our simulation, prevailings computed for Medicare claims and non-Medicare claims were compared to each other and to the prevailings as computed by GHI using all the claims. The same computer programs and parameters were used throughout the computations.

Medicare vs. Non-Medicare

The number of cases (prevailing charges that met the criterion for minimum number of valid customaries) in each file reflects the number of records in each file. There were 190 prevailing charges computed for Medicare data and 72 for non-Medicare data. The number of possible comparisons for all measures of interest (cases where

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1/ See Chapter 6.

TABLE 11-4

Comparison of Non-Medicare to Medicare

50th Percentile	
Number of Possible Comparisons	68
Number of Negative Differences **	13
Number of Positive Differences	20
Level of Significance (Wilcoxon)	0.2777
75th Percentile	
Number of Possible Comparisons	68
Number of Negative Differences	6
Number of Positive Differences	26
Level of Significance (Wilcoxon)	0.0001 *
Number of Doctors	
Number of Possible Comparisons	68
Number of Negative Differences	58
Number of Positive Differences	8
Level of Significance (Wilcoxon)	0.0000 *
High Customary Charge	
Number of Possible Comparisons	68
Number of Negative Differences	21
Number of Positive Differences	42
Level of Significance (Wilcoxon)	0.0019 *
Low Customary Charge	
Number of Possible Comparisons	68
Number of Negative Differences	20
Number of Positive Differences	28
Level of Significance (Wilcoxon)	0.0114 *
Number of Cases for Benchmark Medicare	190
Number of Cases for Test Non-Medicare	72

* Significant at $P \leq .01$

** Non-Medicare less than Medicare

Source: 6979168 6/12/78

valid prevailings were derived in both files) was 68. When the 50th percentile of the weighted customaries is examined, the two files are not significantly different, but the 75th percentile comparison indicates a significant difference. The non-Medicare data produced higher prevailing charges in 26 out of 68 comparisons while only 6 non-Medicare prevailings were lower than Medicare.

The most significant difference between the files is the number of doctors whose customaries were used to compute the prevailings. In 58 out of the 68 comparisons, there were fewer doctors for non-Medicare than for Medicare. In 8 cases there were more non-Medicare doctors. This again results from file size, since there are fewer doctors in the non-Medicare file.

When the highest charges for the two files are compared, the non-Medicare is higher in 42 out of the 68 possible cases and lower in 21 cases. When the order of magnitude of the differences is taken into consideration, such a result could be expected by chance only 19 out of 10,000 times - i.e., it is highly significant.

The "low charges" in the non-Medicare file were higher in 28 out of the 68 comparisons and lower in 20 comparisons. When the magnitude of the difference is taken into account the results are significant at the 1% level. Such a result could be expected by chance 114 out of 10,000 times.

Medicare vs. Total

The number of cases (prevailing charges that meet the criterion for minimum number of customaries) is 198 for the total file (including Medicare and non-Medicare records) and 190 for the Medicare file; the number of possible comparisons for all measures of interest (valid prevailings in both files) was 190.

While there are more negative differences (Medicare smaller than total) than positive differences, when the magnitude of the difference is taken into account the two files do not differ significantly with regard to the 50th percentile of the distribution of the weighted customaries. There is practically no difference between the two files with regard to the 75th percentile.

TABLE 11-5

Comparison of Medicare and Non-Medicare to Total

50th Percentile	Medicare	Non-Medicare
Number of Possible Comparisons	190	72
Number of Negative Differences	10	14
Number of Positive Differences	4	18
Level of Significance (Wilcoxon)	0.1813	0.3003
75th Percentile		
Number of Possible Comparisons	190	72
Number of Negative Differences	5	6
Number of Positive Differences	2	22
Level of Significance (Wilcoxon)	0.2495	0.0006
Number of Doctors		
Number of Possible Comparisons	190	72
Number of Negative Differences	97	70
Number of Positive Differences	0	0
Level of Significance (Wilcoxon)	0.0	0.0
High Customary Charge		
Number of Possible Comparisons	190	72
Number of Negative Differences	53	26
Number of Positive Differences	2	27
Level of Significance (Wilcoxon)	0.0	0.4912
Low Customary Charge		
Number of Possible Comparisons	190	72
Number of Negative Differences	0	6
Number of Positive Differences	30	33
Level of Significance (Wilcoxon)	0.0	0.0
Number of Cases for Benchmark	198	198
Number of Cases for Test	190	72

Source: DUD048, DUD049, 6/28/78

The two files differ significantly as to the number of doctors considered in the comparison of the prevailings, the Medicare file including fewer doctors than the total file in about half of the cases.

When the highest charges are compared, in 53 cases the Medicare charges are lower, in 2 cases they are higher and in 135 cases they are identical. The difference between the two files is statistically significant. An opposite picture emerges when the lowest charges are compared. In 30 cases the Medicare charges are higher than those in the total file, and the remaining 160 cases have identical charges.

Non-Medicare vs. Total

The number of cases (prevailing charges that meet the criterion for minimum number of customaries) in the non-Medicare file is 72 compared to 198 in the total file. The number of possible comparisons is limited by the number of cases in the smaller file and, therefore, is equal to 72.

The differences between the files as to the 50th percentiles of the weighted customaries are not statistically significant. When the 75th percentiles are compared the non-Medicare is higher in 22 cases, lower in 6 cases and equal to total in 44 cases. Statistically, these differences are highly significant. The most striking difference between the two files is in the number of doctors. In 70 out of 72 cases, there were fewer doctors whose customaries were used to compute the prevailings in the non-Medicare file compared to the total file. This, like the number of cases, results from the size of the file.

There is no statistically significant difference between the two files as to the high charges but the low charges in the non-Medicare file are significantly higher than those in the total file.

Discussion of Effect of Merging Non-Medicare Charges

While significant differences between the prevailings computed from each of the files separately do exist, they do not affect the prevailings used by GHI because the non-Medicare file is relatively small. The fact that no significant difference exists between the 50th percentiles of the two files indicates that the central tendency of both files is similar. The 75th percentiles differ because there are outliers in the non-Medicare file. However, it is possible that if more non-Medicare claims were included, their effect on the reasonable charge would be significant.

Effect of Carrier Computer Programs

The effect of carrier computer programs, including the parameters used, on prevailings was evaluated by comparing prevailings for FSY 1976 computed by BC/BS for Nassau to those computed using GHI programs (BC/BS CY 1974 claims were converted into GHI format prior to the computation).[1/] This comparison is limited to prevailing charges since no other information was available in the BC/BS record provided to us.

The two systems differ in definition of extreme values and specialty. BC/BS excludes values lower than 1/3 or higher than three times the current charge. GHI uses two standard deviations to define the limits. BC/BS computes prevailings for general practitioners and specialists - two categories, whereas GHI uses more specialty groupings.[2/] Other differences undoubtedly exist, but we had no access to BC/BS programs and could not study these differences in detail. The comparison of the prevailings, it is believed, provides an overall comparison of the computer systems used in reasonable charge determination.

Our results show no significant difference between the prevailings obtained from the two systems. Of the 38 possible comparisons, 30 showed a difference - in 13 cases, the BC/BS prevailing was lower, in 17 it was higher.

1/ The Appendix to Chapter 10 shows the layout for conversion of BC/BS records to GHI format. This conversion was also needed to study the effect of locality designation (See p. 11-19).

2/ See effect of specialty designation, p. 11-19.

TABLE 11-6

Comparison of BC/BS Computed* Prevailing Charges to Those Provided by BC/BS

Number of possible comparisons	38
Number of negative differences	13
Number of positive differences	17
Level of significance (Wilcoxon)	0.2964
Number of cases for computed BC/BS prevailings	80
Number of cases for provided BC/BS prevailings	69

* BC/BS prevailings were computed using GHI programs with the parameters $S_2C_3P_3$ which are as close as we could get to BC/BS parameters.

S_2 - charges outside two standard deviations from the mean were excluded from computation of customaries.

C_3 - three charges were needed to form a valid customary.

P_3 - three customaries were needed to form a valid prevailing.

Source: PIP032 8/31/78.

Effect of Locality Designation

In order to test the effect of locality designation on prevailings we combined the CY 1976 Medicare claims of both carriers and computed the combined FSY 1978 prevailings using GHI programs and parameters. These prevailings were compared to those computed using GHI programs and Medicare claims for Queens and Nassau separately. When the 75th and the 50th percentiles are examined, no significant difference is found between the combined file and each of its components. (The number of doctors whose customaries were used in computation of prevailings is significantly higher in the combined file than in the components, as is to be expected.) The conclusion, then, is that combining these two counties into one locality would not significantly change the prevailing charges in these counties.

Effect of Specialty Designation

To test the effect of specialty designation, the prevailing fees computed for Medicare claims using the standard GHI groupings were compared to prevailings computed for each specialty individually. The groupings used by GHI were as follows: Family Practice (08), which is comprised of specialties in Family Practice (08) and Pediatrics (37); Internal Medicine (11), which is comprised of specialties in Internal Medicine (11), Allergy (03), Cardiovascular diseases (06), Gastroenterology (10), and Pulmonary diseases (29); and the third grouping, Surgical specialties (02), which includes Surgery (02), Neurological Surgery (14), Plastic Surgery (24), Proctology (28), and Thoracic Surgery (33).

For purposes of comparison, each specialty included in the group was assigned the group prevailing (benchmark), which was compared to the prevailing computed for that specialty (test). The number of cases for the benchmark was 156 and the

TABLE 11-7

Comparison of GHI Medicare (Queens) and BC/BS (Nassau) Computed Prevailing Charges vs. Computed Combined GHI and BC/BS Prevailings

	GHI	BC/BS
50th Percentile		
Number of possible comparisons	80	79
Number of negative differences	16	12
Number of positive differences	16	10
Level of significance (Wilcoxon)	0.5128	0.2697
75th Percentile		
Number of possible comparisons	80	79
Number of negative differences	11	16
Number of positive differences	8	12
Level of significance (Wilcoxon)	0.9039	0.2845
Number of Doctors		
Number of possible comparisons	80	79
Number of negative differences	61	61
Number of positive differences	0	0
Level of significance (Wilcoxon)	0.0000*	0.0000*
High Customary Charge		
Number of possible comparisons	80	79
Number of negative differences	35	20
Number of positive differences	0	0
Level of significance (Wilcoxon)	0.0000*	0.0001
Low Customary Charge		
Number of possible comparisons	80	79
Number of negative differences	0	0
Number of positive differences	38	14
Level of significance (Wilcoxon)	0.0000*	0.0010
Number of cases for Benchmark[1/]	106	106
Number of cases for test	80	79

1/ Combined GHI and BC/BS.

* This figure is significant at a level beyond four decimal places.

Source: DUD 134, 136, 22 September 1978.

TABLE 11-8

Comparison of Prevailing Charges - Grouped vs. Individual Specialties

	75th Percentile
Number of Possible Comparisons	89
Number of Negative Differences	4
Number of Positive Differences	4
Level of Significance (Wilcoxon)	0.8886
Number of Cases for Benchmark	156
Number of Cases for Test	89

Source: Simulation Printout PIPGC331, 4 December 1978.

number of possible comparisons was 89.

The 75th percentile was not significantly affected by specialty designation. Comparisons were not applicable to any other measures.

Effect of Economic Index Adjustment

The effect of the Economic Index adjustment on the 50th and 75th percentiles was evaluated by comparing GHI adjusted to unadjusted charges, FSY 1978.

The number of possible comparisons for both measures was 67, with results showing significant differences in that the adjusted charges were lower at the 50th percentile in more than 1/4 of the cases, and at the 75th percentile in more than half the cases. Since the adjusted 75th percentile represents the administrative upper bound for reasonable charges (subject to the "no roll-back" provision), it seems that the Economic Index restrains program outlay.

Summary

When parameters used in the computation of prevailings are changed, the two items that respond most often are the number of doctors on whose customaries the prevailings were based and the number of prevailings computed. The actual values of the 50th and 75th percentiles are fairly resistant to the changes that we examined. When fewer doctors have customaries and fewer procedures have prevailings, the cost of administering the program increases since alternative methods of determining reasonable charges have to be employed. In addition, these methods are less clearly prescribed by HCFA and thus the span of carrier discretion (leading to differences among carriers) is increased. Paradoxically, then, mandating higher minima for customary and prevailing fees may actually increase carrier discretion.

The effect of non-Medicare business on prevailings for GHI is negligible mainly because of the small number of non-Medicare claims involved. Using one carrier computer program rather than another, in the case of GHI and BC/BS, does not have a significant effect on the magnitude of the prevailings despite the

TABLE 11-9

Comparison of GHI Adjusted Prevailing Charges to Unadjusted Prevailings, FSY 1978

	50th Percentile
Number of Possible Comparisons	67
Number of Negative Differences	19
Number of Positive Differences	--
Level of Significance (Wilcoxon)	0.0001

	75th Percentile
Number of Possible Comparisons	67
Number of Negative Differences	38
Number of Positive Differences	--
Level of Significance (Wilcoxon)	0.0000*

Number of Cases for Benchmark	67
Number of Cases for Test	82

* This figure is significant at a level beyond four decimal places.

Source: Simulation Printout PIPGC284, 22 November 1978.

fact that these carriers differ in the parameters used to determine extreme values and specialty designation. Combining Nassau and Queens into one locality did not affect the magnitude of the prevailings, nor did a change in specialty designation. However, Economic Index adjustment does lower the charges significantly. This effect was also evident in the national study and is discussed in Chapter 5.

CHAPTER 12

PROVIDER PROFILE

In Chapter 11, the effects on fees of alternative carrier choices in the reasonable charge process were considered. Chapter 12 examines summary statistics for the 2,335 physicians in Queens county and 2,594 in Nassau county who provided Medicare services in 1976. The profiles show that on the average, Nassau physicians had more patients, gave more services per patient and had greater Medicare revenue than their counterparts in Queens.

Introduction

Profiles of physician providers and beneficiaries in Queens and Nassau Counties were developed using data supplied by the Medicare Part B carriers for calendar year 1976. These profiles were used as the basis for exploring whether there were significant differences between the areas as to characteristics of Medicare physicians, and their behavior in the Medicare market.

This study showed, among other findings, that:

Physicians in Nassau on the average are more active in Medicare than Queens physicians - they see more patients, perform more procedures and services, and have higher revenue.

. The proportion of medical and surgical specialists among physicians active in Medicare is higher for Nassau than Queens (57.8% vs. 52.5%). The converse is true for GPs - 29.0% in Queens vs. 22.5% in Nassau.

. These findings suggest that the practice patterns of the two counties differ mainly because Nassau physicians provide more of the care used by their aged patients,while Queens physicians concentrate more on "maintenance" (day to day) services and many of the more complex services are provided by physicians outside of Queens.

. In both areas, according to the provider profiles, acceptance of assignment for some physicians is a general decision - some never accept it, some always do. Others may accept it from some patients only. Beneficiary profile data show that some beneficiaries are viewed by all the doctors with whom they have contact over the year as assignment patients, but others are always non-assignment patients. It appears that some physicians avoid having assignment patients in their practice.

The data sources included the GHI claims history extract file and the Blue Shield history file used in FSY 1978 profile development. In addition,

the current physician registers for both carriers were used for specialty information, and, in the case of Queens physicians, to determine board certification status.

The following report is based on all Medicare physician providers located in the two counties and all the claims contained in the files referred to above. However, Nassau claims which could not be identified as assigned or unassigned were excluded from tabulations using these concepts. The provider behavior profiles offer information on typical Medicare workload, revenue and other practice statistics and show differences both within and between carriers. All the findings pertain only to the Medicare clientele of Queens and Nassau doctors. For examination of total practice, workload, and revenue of these doctors other data sources are needed.

Provider Profile: Queens

Profiles were drawn for all physicians in the Queens county GHI register for whom a claim for service in 1976 appeared in the Medicare claims file. A total of 2,335 of the 4,784 physicians in the masterfile of September 19, 1977 were active (gave one or more Medicare-covered services) in 1976. Of these physicians, 2,294 were identifiable by specialty type. In other words, 48.0% of Queens listed physicians identified by specialty type gave one or more services to Medicare patients. The following shows the Medicare activity rate for various groups of physicians.

Medicare Activity Rate

Specialty Type	Number		Percent Active
	Claims File (a)	Masterfile (b)	a/b
All types	2294	4784	48.0%
GP	665	1568	42.4
Medical	548	854	64.2
Surgical	656	1130	58.1
Other	425	1232	34.5

The Average Medicare Physician

A summary statistical portrait of physicians in Queens who serve Medicare patients is presented in Table 12-Q1.

Each physician cared for an average of 116 patients in 1976 and provided 5.51 services per patient. The mean physician submitted charges of $18,988 and received revenue [1/] from Medicare of $15,703, of which $10,208 was direct outlay by the program and the rest was the responsibility of the patient in the form of coinsurance or deductible.

Board Certification and Specialty Identification

Of the 2,294 physician providers represented in Queens Medicare claims for 1976 and identified by specialty type, board certification status was known for 2,242. Of these, 22.7% were certified and 77.3% were not; the percentage of board certification was highest in the surgical specialties, 34.6%. The proportion of active doctors who had passed their boards was only slightly higher than the percentage of diplomates in the masterfile which includes physicians not active in Medicare. Hence, the probability of being active in Medicare practice is not different for board and non-board doctors.

Analysis of specialty distribution of doctors who treated Medicare patients shows that 29% were in general or family practice, 24% in medical specialties, 29% in surgical specialties and 19% in "other" [2/] specialties (Table 12-Q2). A total of 1,112 physicians, or 48.5% of all active doctors were in primary care. Of these, 447 were internists, who are considered to give primary care because of their current role as the regular source of care for many persons, even though some of them with subspecialties serve more as consultants than primary care physicians (Comparison Table 12-6). For every 10 primary care doctors, there were .86 ophthalmologists, .46 dermatologists, and 1.17 general surgeons.

1/ For definition, See Table 10-5.

2/ The specialists included in the various types are listed in Chapter 10.

Workload

A total of 271,213 Medicare patients were seen by Queens physicians in 1976. This is a gross count in which beneficiaries seen by more than one doctor are counted once for each doctor they consulted.

About 37% of physicians had fewer than 25 Medicare patients, and can be termed relatively inactive. Another 11.4% had 25-49 patients, but 45.8% saw 50-400 patients each. Only 5.7% treated 400 or more patients. The mean was 116.

Tables 12-Q2 and 12-Q3 classify the number of patients per doctor according to present specialty type and revenue class. Medical specialists show the highest proportion of practitioners (54.4%) who saw 100 or more patients. The number of patients per doctor generally goes up with revenue class.

The number of services physicians delivered to the patients was also analyzed. Over one-fourth of the doctors performed under 25 Medicare services. Between 25 and 99 services were performed by 16% of the doctors, between 100 and 999 by 34%, and 24% gave 1,000 or more services. The mean was 730, or, based on the American Medical Association 1974 figure of 47 work weeks a year, 15.5 services per week. Tables 12-Q4 and 12-Q5 provide further details concerning number of services by physicians grouped by specialty and revenue class. Medical specialties had the highest concentration of physicians (45.1%) performing 1,000 or more services.

Queens physicians provided an average of 5.5 services per patient. Almost one-third gave only 1 or 2 services and another third performed between 2 and 6. The high volume providers were responsible for an average of 21 or more services per patient seen (Tables 12-Q6 and 12-Q7).

Physicians differ both in number and variety of services performed. The number of different procedure codes into which services reported by each doctor are classified for reimbursement purposes was analyzed. Although the number of procedures

can vary because of reporting habits and also because the potential number is governed by specialty, tracking the number helps monitor terminological inflation and also reveals what can be termed intensity or refinement of specialization. As shown in Tables 12-Q8 and 12-Q9, over 50% of the doctors reported fewer than 10 different procedures. The mean was 15.5 and at the top of the distribution 2.4% of the doctors reported 60 or more. The number of procedures was examined by specialty and revenue class. Not unexpectedly, physicians with the least diversity are in primary care where a few office and hospital care codes express services rendered for a variety of diagnoses. Performance of few procedures, less than 10, was typical of doctors in the very low revenue class and the majority of high-revenue physicians provided thirty or more procedures. However, performance of a variety of procedures does not necessarily mean a high revenue from Medicare.

Place of Service

Most doctors (59%) provided services both in the office and the hospital but 31.7% made no hospital visits or supplied other hospital-based services and another 6.4% performed services at the hospital but never at the office (Tables 12-Q10 and 12-Q11). An additional 2.7% used neither location - which, if accurate, means that such care as they rendered under Medicare was at extended care facilities, the patient's home, or other places.

The majority of very low revenue physicians never used the hospital for Medicare patients while over 96% of high revenue physicians used both office and hospital. Place of service was also analyzed by specialty. With the exception of "other" specialties, at least 60% of physicians in each specialty performed services in both hospital and office (Table 12-Q11).

Medicare Revenue

As already noted "Medicare physicians" may have few or many Medicare patients. Income derived by physicians from Medicare also varies widely. About 3/4 of the Queens physicians received under $20,000 in 1976 (Table 12-Q12). GPs were more likely to be in this class than medical or surgical specialists. In contrast, 142 physicians, or 6.2% of the total, each received $60,000 or more from Medicare. Mean Medicare revenue was $15,703 and 43% of all physicians earned between $1,000 and $19,999.

The mean revenue per patient was $135. As revenue class goes up, the number of patients tends to increase. 95% of physicians in the very low revenue class saw under 25 patients, while all but one of the high-revenue physicians saw 100 or more patients (Table 12-Q 3). Similarly, total number of services and total revenue were positively correlated. Average revenue per service was $21.51 (Table 12-Q1).

Assignment

The provider profile contains information about the acceptance of assignment and its relation to volume of practice and distribution of revenue.

Assigmment rates showed wide dispersion among Queens doctors, with 43% having under 10% of their claims in the assigned category, 14% having 90% or more assigned, and the rest distributed in between. Correspondingly, 45% received under 10% of their Medicare revenue from assigned claims, 12.6% had 90% or more from this source, and the remaining 43% were dispersed in between. Assigned claims were 32.2% of all claims and revenue from assigned claims was 29.8% of total revenue. The mean revenue per doctor from assigned claims was $4,234 whereas for unassigned claims it was $11,470 (Table 12-Q1).

There is a noticeably high coefficient of variation for assigned revenue and similarly for the number of assigned claims; these measures were 2.56 and

2.72 respectively, compared to 1.63 and 1.89 for unassigned revenue and unassigned claims, indicating that doctors with similar Medicare practice volume may differ from each other in their assignment behavior. The assignment rates for claims and revenue discussed here reflect the use of data from the masterfile, which includes all 2,335 physicians (including those not identified as to specialty).[1/] The class intervals for assignment rates are smaller than those in tables based on claims.

Levels of revenue in relation to assignment were analyzed by Medicare revenue class. For 57% of all physicians, under $1,000 revenue came from assigned claims and for another 38%, between $1,000 and $20,000 was assigned revenue. As Medicare revenue class goes up, the revenue from assigned as well as unassigned claims rises (Tables 12-Q13 and 12-Q14).

It is evident that the differences in assigned and unassigned revenue levels will be reflected in the varying proportions of revenue derived from assigned claims. Table 12-Q15 shows the relationship between Medicare revenue class and the number of doctors who derive small or large shares of their Medicare revenue from assigned claims. While there is considerable variation, it is difficult to see any consistent pattern, except that as revenue class goes up, the percent of doctors deriving less than 10% of their revenue from assigned claims does go down.

The effect of specialty type on level of revenue from assigned claims is considered in Table 12-Q16. In general, for each specialty type only a very small percentage of physicians had revenue of $20,000 or over from assigned claims.

Specialty types vary as to reliance on assigned claims to generate Medicare revenue (Tables 12-Q17 and 12-Q18). The "other" specialties are the most likely to include doctors who derive over 70% of their revenue from assignment.

1/ Therefore, slight discrepancies appear between these figures and those in Tables 12-Q13, 14 and 15.

Close-up of Medium and High Revenue Doctors

Physicians in the "medium" Medicare revenue class ($20,000-$59,999) are of particular interest because each of them derives substantial revenue from Medicare, and in the aggregate they account for a large share of the program outlays. They provided 47% of all services and received 44% of total revenue. Their characteristics are indicated, roughly, by identifying for each characteristic the class interval in which the median physician appears. For 130 general practitioners and 163 medical specialists in this revenue class, the median physician performs between 10 and 29 procedures and delivers 1,000 or more Medicare services. Each physician treats 200 - 399 Medicare patients, providing 6 - 10.9 services per patient.

Figures for surgical and "other" specialties are different. The median doctor in each of these groups (with 122 and 52 doctors respectively in the medium revenue class) does 30 or more procedures and delivers 100 - 999 services. The median surgical specialist provides between 2 and 6 services per patient. But the median doctor in "other" specialties, with more patients than the median surgeon, needs to provide only 1 - 2 services per patient to be in the same revenue class.

The four specialty types are alike in the volume of assigned and unassigned revenue obtained by the median doctor, who received between $1,000 and $20,000 in assigned revenue and between $20,000 and $60,000 in unassigned.

There were 43 physicians in the top revenue class, $60,000 or more. For all specialties, 72% of high-earners were in the top class for number of procedures and number of services. GPs in this earnings class were more likely than specialists to have high service volumes.

High revenue providers accounted for 27% of assigned claims, 28% of unassigned claims, and a similar percent of the 1.7 million covered services rendered. They received 40% of assigned revenue and 33% of unassigned; their share of total revenue was 35%.

The shares of low revenue physicians ranged from 10 to 29% on the service, claims and revenue variables. The shares of the very low revenue class were negligible.

Provider Profile: Nassau

For the 2,594 doctors in private practice in Nassau who were active in Medicare in 1976, many of the distributions were similar to those just reported for Queens doctors, but there are some differences. Findings on Nassau, presented in Tables 12-N1 - 12-N28, are reviewed briefly in the following paragraphs. Comparisons between physicians in the two counties are presented in the next section. Tables 12-N1 - 12-N26 parallel Tables 12-Q1 - 12-Q26 for Queens. In addition, Tables 12-N27 and 12-N28 present assigned program outlay by specialty type and physician's Medicare revenue class. For Nassau physicians, special tables were needed to show program outlay for assigned claims (80% of reasonable charge). For Queens, program outlay for assigned claims is the same as physicians' revenue from these claims (if no collection of the deductible is assumed) and is presented in Tables 12-Q14 and 12-Q16.

A large proportion of Nassau Medicare doctors had very few patients but the mean number of patients in 1976 was 139. Thirty-three percent of the doctors performed under 100 Medicare services while thirty-two percent performed 1,000 or over. Five percent of the doctors provided 21 or more services per patient seen the average number of services per patient was 7.28. Thirty-five percent of the physicians performed 30 or more different procedures; surgeons were most likely to have this level of variety. In contrast, 51.5% of those in "other" specialties performed under 10 different procedures.

The proportion of Nassau doctors who performed services in both office and hospital was 68.9% while 23% gave no Medicare services in the hospital. The proportion of doctors using both office and hospital rose as revenue class rose.

Nassau doctors vary widely in number of patients seen and services given and consequently in revenue. A significant proportion of doctors, 23%, received under $1,000 revenue from Medicare for 1976 services, and another 39% received from $1,000 to $19,999. However, 38% had Medicare revenue of $20,000 or over.

There is a wide dispersion in assignment rates also, with 31% of doctors having fewer than 10% assigned claims and 21% having 70% or more assigned. The percent getting 30-69% of their Medicare revenue from assignment goes up with revenue class. In high revenue brackets, the concentration of assigned claims was equal to that for unassigned. In Nassau, the physicians most likely to get most of their revenue from unassigned claims are the GPs.

Among Nassau doctors in the medium revenue class, the median doctor in general practice performed 30 or more procedures, saw 100-199 patients, and delivered 1,000 or more services,or between 6 and 11 per patient. For all specialty types, the median physician received assigned revenue of under $20,000. The rate of assignment was highest - based on both claims and revenue - for surgical specialties.

Comparison of Queens and Nassau Physicians

Nassau doctors averaged higher than Queens doctors with regard to volume of Medicare services, patients treated, and accompanying revenue. They also had a slightly higher rate of assignment (expressed in terms of both claims and revenue), and performed a greater variety of procedures per physician. Within each set of physicians, variety is associated with higher revenue. Although Nassau doctors did not report more services per claim, they had more claims per patient and totalled more services per patient.[1/]

For all specialty types combined, Nassau doctors were more likely than Queens doctors to have performed 30 or more different procedures, to have provided 1,000 or more services, and to have seen 400 or more patients. They were also more likely to be in the medium or high Medicare revenue class. They were less often in the low assignment rate class and more often had assigned revenue of $20,000 or more.

1/ These differences are statistically significant by the Z-test at P. = .05 (Table 1)

These variables were examined for five specialties individually, using those specialties with largest numbers of active Medicare physicians in Queens (general practice, internal medicine, surgery, obstetrics-gynecology, and ophthalmology). Although there were exceptions, generally the differences between Nassau and Queens were consistent across specialties. The comparisons are presented in Table 2.

Further comparative detail, specialty-by-specialty comparisons summarized from computer tables reviewing all the specialties with active physicians, is presented in Comparison Table 12-3.

Financial comparisons

Revenue and outlay figures derived from Queens and Nassau claims data are the only available source for certain financial estimates of expenditure and income flows but they are not exactly comparable between the carriers and should be taken as approximations only. For assigned claims, GHI "Medicare revenue" is measured by the amount paid to the supplier. This is an underestimate to the extent that the deductible and coinsurance are collected by the provider from the beneficiary. For BC/BS, Medicare revenue from assigned claims is measured by the reasonable charge. This may be an overestimate if coinsurance and deductible are not collected.

In GHI, "program outlay" for assigned claims is measured precisely by the amount paid to the supplier; in BC/BS, program outlay is estimated as 80% of the reasonable charge. The BC/BS outlay is an overestimate to the extent that the deductible, which is paid by the beneficiary, happens to be satisfied (or partly satisfied) by the claims under consideration.

Hence outlay is overstated for Blue claims by the amount of the deductible, while revenue is understated in GHI assigned claims by the amount of the deductible and coinsurance. Submitted charges, however, do provide a consistent concept of

revenue associated with Medicare performance and of price level and can be compared across carriers, even though collections from patients on unassigned claims remain an unknown, on the assumption that the two areas do not differ in the extent to which the deductible, coinsurance, and amount of charge above reasonable charge is collected.

Total submitted charges per physician averaged $29,003 in Nassau and $18,988 in Queens. The difference is 52.7%. Program outlay per physician is 74.1% higher in Nassau (which may be overstated by the measure available for the use). Revenue per physician is 50.1% higher in Nassau (Table 12-1).

These differences are all reduced when placed on a per patient basis, since the average number of patients is 19.4% higher in Nassau. Submitted charges, outlay and revenue are 28, 46, and 26% higher in Nassau on this basis.

The number of services per physician is 44.1% higher for Nassau physicians. This is especially important in financial comparisons since financial statistics placed on a per service basis provide measures of price and help identify the source of income variation. These price measures show a relatively minor difference between the areas. Submitted charges per service are 6.0% higher in Nassau, outlay 20.8% higher, and revenue 4.1% higher.

Nassau doctors had over 50% more Medicare revenue than Queens doctors, the difference being concentrated in assigned claims. One way that the difference in revenue flow was translated into individual practices was in terms of the percent of all doctors in the revenue class $60,000 or more - 11.4% for Nassau and 6.2% for Queens (Tables 12-N3 and 12-Q3).

Physicians in the revenue class $60,000 or more accounted for 27.2% of all Medicare services in Queens and 41.6% in Nassau (Table 12-4). The high-revenue doctors accounted for 34.9% of aggregate revenue in Queens but 47.1% in Nassau. The concentration of both revenue and services in the medium-revenue class between

$20,000 and $60,000 showed much smaller differences. GPs accounted for a larger share of services and of revenue in Queens than they did in Nassau. Medical specialists in Nassau performed 52% of services and took 37% of revenue, while surgical specialists did 15% of services and took 40% of revenue, the contrast with medical fields being an obvious result of higher prices per individual service within surgery.

The top revenue class in Nassau had a higher rate of assigned/total claims and of assigned/total revenue than in Queens. In Nassau 51.1% of revenue in the top class was derived from assigned claims. For both Queens and Nassau the assigned claims rate was highest for "other" specialties.

Discussion

One reason why Queens doctors have lower activity and revenue measurements may be that a greater proportion of Medicare enrollees in Queens go outside the borough of residence for some of their health care. While this can not be conclusively shown, analysis of utilization data by beneficiary suggests travel for care. The proportion of users (at least one claim to a Queens doctor during the year) to enrollees in Queens varies by zip code, with residents of border areas having low rates consistent with the proposition that those who find travel to another county easier, or whose medical connections are more likely to be outside Queens, use physicians whose offices are elsewhere. Along with those beneficiaries using no covered service in Queens should be considered those who go outside for certain specialties or for consultations while receiving primary care, and perhaps some specialized services, in the borough of residence. This reasoning is in accord with the greater variety of procedures per MD in Nassau, since variety is specialty-related. The higher assignment rate in Nassau is not surprising because, given higher prevailings, accepting assignment may be consistent with revenue maximization when expensive interventions are planned for which demand (based on cost to the

patient) would be inelastic. If these are one-time events such as major surgery, the physician is not committed to accepting assignment again for that patient (although it may still be to that physician's advantage to do so). Differences in activity and revenue may also be explained in other ways - procedure variety, by more differentiation of procedure codes reported by physicians or more differentiation of medical techniques and procedures; service level, by more activist style; patient volume per MD, by more concentration of patients among high-activity physicians. Thus several factors may contribute to the observed differences.

The findings have implications for HCFA policy. The integrity of the locality concept in determination of prevailings is impaired by evidence of out-of-area utilization: Queens doctors especially appear to be competitive in secondary care with those outside the borough, yet prevailings are independently determined.

The use of many specialty groupings in an area with lower workload per doctor in specialties would appear to bias against having enough customaries to form prevailings for all procedures and this would be even more likely with tighter parameters. This conclusion is supported by results of our simulations reported in Chapter 11.

Physicians with negligible involvement in Medicare services make up a large share of the provider distribution. The situation might be further explored in terms of program goals as to quality of service. Physicians with extremely high revenue or number of services are identifiable. However, inquiry into possibility of excess on a statistical basis alone using claims data is not adequate. Such inquiry would require consideration of the acceptability of the volume and mix of services provided by practitioners in the extreme category.

TABLE 12-Q1

Selected Statistics for Queens Physician Providers under Medicare, 1976 [1/]

Variable [1/]	Mean per Physician	Standard Deviation	Minimum Value	Maximum Value	Aggregate of all Physicians Where Applicable	Coefficient of Variation $\sigma/\bar{x}$
Number of procedures	15.46	17.26	1.00	156.00	-	1.12
Number of services	730.11	1,319.98	1.00	29,476.00	1,704,797.00	1.81
Number of patients [2/]	116.15	170.84	1.00	1,980.00	271,213.00[b]	1.47
Assigned claims	113.69	309.33	0	3,697.00	265,477.00	2.72
Unassigned claims	280.34	529.85	0	6,014.00	654,586.00	1.89
Total claims	394.03	-	-	-	920,063.00	-
Percent assigned claims	32.23%	35.76	0%	100.00%	-	1.11
Claims per patient	3.39	-	-	-	-	-
Services per claim	1.85	-	-	-	-	-
Services per patient	5.51	8.10	1.00	164.64	-	1.47
Assigned revenue	$4,233.75	10,850.06	0	$195,974.26	$9,885,803.60	2.56
Unassigned revenue	$11,469.56	18,732.00	0	$148,828.00	$26,781,415.07	1.63
Total Medicare revenue	$15,703.31	24,673.63	0	$253,179.20	$36,667,218.67	1.57
Percent assigned revenue	29.84%	34.65	0%	100.00%	-	1.16
Average revenue per assigned claim	$37.24	-	-	-	-	-
Average revenue per unassigned claim	$40.91	-	-	-	-	-
Average revenue per claim	$39.85	-	-	-	-	-

TABLE 12-Q1 (continued)

Selected Statistics for Queens Physician Providers under Medicare, 1976[1/]

Variable [2/]	Mean per Physician	Standard Deviation	Minimum Value	Maximum Value	Aggregate of all Physicians Where Applicable	Coefficient of Variation $\sigma/\bar{x}$
Revenue per patient	$135.20	-	-	-	-	-
Revenue per service	$21.51	-	-	-	-	-
Total submitted charges	$18,988.36	30,399.34	$4.10	$339,643.00	$44,337,818.47	1.60
Submitted charges per claim	$48.19	-	-	-	-	-
Submitted charges per patient	$163.48	-	-	-	-	-
Submitted charges per service	$26.01	-	-	-	-	-
Assigned outlay	$4,233.75	10,850.06	0	$195,974.26	$9,885,803.60	2.56
Unassigned outlay	$5,975.12	10,364.33	0	$86,833.81	$13,951,910.45	1.73
Total program outlay	$10,208.87	17,439.77	0	$196,141.46	$23,837,714.05	1.71
Outlay per claim	$25.91	-	-	-	-	-
Outlay per patient	$87.89	-	-	-	-	-
Outlay per service	$13.98	-	-	-	-	-

[1/] 2,335 physicians for all variables except percent assigned revenue, which has 2,324.

[2/] Patients who have seen more than one doctor counted more than once.

Source: GHI Provider Profile printout, 15 July 1978, PIPGC904.

TABLE 12-Q2

Number of Patients per Physician by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Number of Patients: Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	2,294	852	262	322	405	323	130
General practitioner	665	199	84	113	170	86	13
Medical	548	140	48	62	114	134	50
Surgical	656	276	88	95	78	72	47
Other	425	237	42	52	43	31	20

Specialty Type	All Physicians (Percent)		Number of Patients: Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	100.0%	100.0%	37.1%	11.4%	14.0%	17.7%	14.1%	5.7%
General practitioner	29.0	100.0	29.9	12.6	17.0	25.6	12.9	2.0
Medical	23.9	100.0	25.6	8.8	11.3	20.8	24.5	9.1
Surgical	28.6	100.0	42.1	13.4	14.5	11.9	11.0	7.2
Other	18.5	100.0	55.8	9.9	12.2	10.1	7.3	4.7

Source: GHI Provider Profile Printout, July 1, 1978, PIPGC826.

TABLE 12-Q3

Number of Patients per Physician by Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Number of Patients					
		Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	2,294	852	262	322	405	323	130
Very low (under $1,000)	705	667	35	3	-	-	-
Low ($1,000-19,999)	980	184	219	278	236	56	7
Medium ($20,000-59,999)	467	1	8	40	151	209	58
High ($60,000 and over)	142	-	-	1	18	58	65

Medicare Revenue Class	All Physicians (Percent)		Number of Patients					
			Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	100.0%	100.0%	37.1%	11.4%	14.0%	17.7%	14.1%	5.7%
Very low	30.7	100.0	94.6	5.0%	0.4	-	-	-
Low	42.7	100.0	18.8	22.3	28.4	24.1	5.7	0.7
Medium	20.4	100.0	0.2	1.7	8.6	32.3	44.8	12.4
High	6.2	100.0	-	-	0.7	12.7	40.8	45.8

Source: GHI Provider Profile Printout, July 1, 1978, PIPGC826.

TABLE 12-Q4

Number of Services per Physician by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Number of Services Under 100	100-999	1,000 and Over
All physicians	2,294	960	784	550
General practitioner	665	184	277	204
Medical	548	151	150	247
Surgical	656	332	253	71
Other	425	293	104	28

Specialty Type	All Physicians (Percent)		Number of Services Under 100	100-999	1,000 and Over
All physicians	100.0%	100.0%	41.8%	34.2%	24.0%
General practitioner	29.0	100.0	27.7	41.7	30.7
Medical	23.9	100.0	27.6	27.4	45.1
Surgical	28.6	100.0	50.6	38.6	10.8
Other	18.5	100.0	68.9	24.5	6.6

Source: GHI Provider Profile Printout, July 1, 1978. PIPGC826.

TABLE 12-Q5

Number of Services per Physician by Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Number of Services: Under 100	100-999	1,000 and Over
All physicians	2,294	960	784	550
Very low (under $1,000)	705	700	5	-
Low ($1,000-19,999)	980	255	611	114
Medium ($20,000-59,999)	467	5	136	326
High ($60,000 and over)	142	-	32	110

Medicare Revenue Class	All Physicians (Percent)		Under 100	100-999	1,000 and Over
All physicians	100.0%	100.0%	41.8%	34.2%	24.0%
Very low	30.7	100.0	99.3	0.7	-
Low	42.7	100.0	26.0	62.3	11.6
Medium	20.4	100.0	1.1	29.1	69.8
High	6.2	100.0	-	22.5	77.5

Source: GHI Provider Profile Printout, July 1, 1978, PIPGC 826.

TABLE 12-Q6

Number of Services per Patient by Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	2,294	725	766	544	230	29
Very low (under $1,000)	705	410	229	44	17	5
Low ($1,000-19,999)	980	230	365	284	89	12
Medium ($20,000-59,999)	467	74	110	180	96	7
High ($60,000 and over)	142	11	62	36	28	5

Medicare Revenue Class	All Physicians (Percent)		Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	100.0%	100.0%	31.6%	33.4%	23.7%	10.1%	1.3%
Very low	30.7	100.0	58.2	32.5	6.2	2.4	0.7
Low	42.7	100.0	23.5	37.2	29.0	9.1	1.2
Medium	20.4	100.0	15.8	23.6	38.5	20.6	1.5
High	6.2	100.0	7.7	43.7	25.4	19.7	3.5

Source: GHI Provider Profile Printout, July 1, 1978, PIPGC826.

TABLE 12-Q7

Number of Services per Patient by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	2,294	725	766	544	230	29
General practitioner	665	76	200	281	101	7
Medical	548	88	173	184	89	14
Surgical	656	286	299	54	14	3
Other	425	275	94	25	26	5

Specialty Type	All Physicians (Percent)		Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	100.0%	100.0%	31.6%	33.4%	23.7%	10.0%	1.2 %
General practitioner	29.0	100.0	11.4	30.1	42.3	15.2	1.1
Medical	23.9	100.0	16.1	31.6	33.6	16.2	2.6
Surgical	28.6	100.0	43.6	45.6	8.2	2.1	0.5
Other	18.5	100.0	64.7	22.1	5.9	6.1	1.2

Source: GHI Provider Profile Printout, July 1, 1978, PIPGC826.

TABLE 12-Q8

Number of Procedures per Physician by Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Number of Procedures Under 10	10-29	30 and Over
All physicians	2,294	1,158	746	390
Very low (under $1,000)	705	688	17	-
Low ($1,000-19,999)	980	445	453	82
Medium ($20,000-59,999)	467	22	240	205
High ($60,000 and over)	142	3	36	103

Medicare Revenue Class	All Physicians (Percent)		Number of Procedures Under 10	10-29	30 and Over
All physicians	100.0%	100.0%	50.5%	32.5%	17.0%
Very low	30.7	100.0	97.6	2.4	-
Low	42.7	100.0	45.4	46.2	8.4
Medium	20.4	100.0	4.7	51.4	43.9
High	6.2	100.0	2.1	25.4	72.5

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q9

Number of Different Procedures per Physician by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Number of Procedures Under 10	10-29	30 and Over
All physicians	2,294	1,158	746	390
General practitioner	665	366	237	62
Medical	548	207	244	97
Surgical	656	332	190	134
Other	425	253	75	97

Specialty Type	All Physicians (Percent)		Number of Procedures Under 10	10-29	30 and Over
All physicians	100.0%	100.0%	50.5%	32.5%	17.0%
General practitioner	29.0	100.0	55.0	35.6	9.3
Medical	23.9	100.0	37.8	44.5	17.7
Surgical	28.6	100.0	50.6	29.0	20.4
Other	18.5	100.0	59.5	17.7	22.8

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q10

Office vs. Hospital As Place of Service by Medicare Revenue Class: Queens Physicians, 1976 1/

Medicare Revenue Class	All Physicians (Number)	Place of Service: Office	Hospital	Both	Neither
All physicians	2,294	727	147	1,357	63
Very low (under $1,000)	705	491	69	98	47
Low ($1,000-19,999)	980	215	62	687	16
Medium ($20,000-59,999)	467	17	15	435	-
High ($60,000 and over)	142	4	1	137	-

Medicare Revenue Class	All Physicians (Percent)		Place of Service: Office	Hospital	Both	Neither
All physicians	100.0%	100.0%	31.7%	6.4%	59.2%	2.7%
Very low	30.7	100.0	69.6	9.8	13.9	6.7
Low	42.7	100.0	21.9	6.3	70.1	1.6
Medium	20.4	100.0	3.6	3.2	93.1	-
High	6.2	100.0	2.8	0.7	96.5	-

1/ Physicians were classed as "office" if they rendered service in nursing homes and patient homes as well as in offices - so long as there were no hospital-based services. Similarly, physicians were classed as "hospital" even if they provided care in residences and nursing homes.

Source: GHI Provider Profile Printouts, July 1, 1978, PIPGC826.

TABLE 12-Q11

Office vs. Hospital As Place of Service by Specialty Type: Queens Physicians, 1976 1/

Specialty Type	All Physicians (Number)	Place of Service: Office	Hospital	Both	Neither
All physicians	2,294	727	147	1,357	63
General practitioner	665	248	4	401	12
Medical	548	150	10	380	8
Surgical	656	169	33	449	5
Other	425	160	100	127	38

Specialty Type	All Physicians (Percent)		Place of Service: Office	Hospital	Both	Neither
All physicians	100.0%	100.0%	31.7%	6.4%	59.2%	2.7%
General practitioner	29.0	100.0	37.3	0.6	60.3	1.8
Medical	23.9	100.0	27.4	1.8	69.3	1.5
Surgical	28.6	100.0	25.8	5.0	68.4	0.8
Other	18.5	100.0	37.6	23.5	29.9	8.9

1/ See footnote to Table 10.

Source: GHI Provider Profile Printout, July 1, 1978, PIPGC826.

TABLE 12-Q12

Medicare Revenue by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Medicare Revenue: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	2,294	705	980	467	142
General practitioner	665	176	355	130	4
Medical	548	135	192	163	58
Surgical	656	198	269	122	67
Other	425	196	164	52	13

Specialty Type	All Physicians (Percent)		Medicare Revenue: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	100.0%	100.0%	30.7%	42.7%	20.4%	6.2%
General practitioner	29.0	100.0	26.5	53.4	19.5	0.6
Medical	23.9	100.0	24.6	35.0	29.7	10.6
Surgical	28.6	100.0	30.2	41.0	18.6	10.2
Other	18.5	100.0	46.1	38.6	12.2	3.1

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q13

Assigned Claims as Percent of Total Claims by Physician's Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Percent Assigned Claims: Under 10%	10-29%	30-69%	70% and Over
All physicians	2,294	994	424	391	485
Very low (under $1,000)	705	328	44	87	246
Low ($1,000-19,999)	980	432	186	187	175
Medium ($20,000-59,999)	467	195	144	82	46
High ($60,000 and over)	142	39	50	35	18

Medicare Revenue Class	All Physicians (Percent)		Percent Assigned Claims: Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	43.3%	18.5%	17.0%	21.1%
Very low	30.7	100.0	46.5	6.2	12.3	34.9
Low	42.7	100.0	44.1	19.0	19.1	17.9
Medium	20.4	100.0	41.8	30.8	17.6	9.9
High	6.2	100.0	27.5	35.2	24.6	12.7

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q14

Revenue from Assigned Claims by Physician's Medicare Revenue Class:

Queens Physicians, 1976 [1/]

Medicare Revenue Class	All Physicians (Number)	Total Revenue from Assigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	2,294	1,302	866	107	19
Very low (under $1,000)	705	705	-	-	-
Low ($1,000-19,999)	980	523	457	-	-
Medium ($20,000-59,999)	467	71	332	64	-
High ($60,000 and over)	142	3	77	43	19

Medicare Revenue Class	All Physicians (Percent)		Total Revenue from Assigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	100.0%	100.0%	56.8%	37.8%	4.7%	0.8 %
Very low	30.7	100.0	100.0	-	-	-
Low	42.7	100.0	53.4	46.6	-	-
Medium	20.4	100.0	15.2	71.1	13.7	-
High	6.2	100.0	2.1	54.2	30.3	13.4

1/ For assigned claims in Queens, revenue is equivalent to program outlay.

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q15

Percent of Medicare Revenue from Assigned Claims by Physician's Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	2,294	1,032	461	372	429
Very low (under $1,000)	705	361	54	72	218
Low ($1,000-19,999)	980	450	192	188	150
Medium ($20,000-59,999)	467	183	165	75	44
High ($60,000 and over)	142	38	50	37	17

Medicare Revenue Class	All Physicians (Percent)		Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	45.0%	20.1%	16.2%	18.7%
Very low	30.7	100.0	51.2	7.7	10.2	30.9
Low	42.7	100.0	45.9	19.6	19.2	15.3
Medium	20.4	100.0	39.2	35.3	16.1	9.4
High	6.2	100.0	26.8	35.2	26.1	12.0

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q16

Revenue from Assigned Claims by Specialty Type: Queens Physicians, 1976 [1/]

Specialty Type	All Physicians (Number)	Total Revenue from Assigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	2,294	1,302	866	107	19
General practitioner	665	444	211	9	1
Medical	548	229	264	48	7
Surgical	656	358	252	38	8
Other	425	271	139	12	3

Specialty Type	All Physicians (Percent)		Total Revenue from Assigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	100.0%	100.0%	56.8%	37.8%	4.7%	0.8%
General practitioner	29.0	100.0	66.8	31.7	1.4	0.2
Medical	23.9	100.0	41.8	48.2	8.8	1.3
Surgical	28.6	100.0	54.6	38.4	5.8	1.2
Other	18.5	100.0	63.8	32.7	2.8	0.7

1/ For assigned claims in Queens, revenue is equivalent to program outlay.

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q17

Revenue from Unassigned Claims by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Total Revenue from Unassigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	2,294	866	962	393	73
General practitioner	665	194	373	96	2
Medical	548	186	188	142	32
Surgical	656	252	253	117	34
Other	425	234	148	38	5

Specialty Type	All Physicians (Percent)		Total Revenue from Unassigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	100.0%	100.0%	37.8%	41.9%	17.1%	3.2%
General practitioner	29.0	100.0	29.2	56.1	14.4	0.3
Medical	23.9	100.0	33.9	34.3	25.9	5.8
Surgical	28.6	100.0	38.4	38.6	17.8	5.2
Other	18.5	100.0	55.1	34.8	8.9	1.2

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q18

Assigned Claims As Percent of Total Claims by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Percent Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	2,294	994	424	391	485
General practitioner	665	415	94	77	79
Medical	548	193	112	102	141
Surgical	656	245	138	129	144
Other	425	141	80	83	121

Specialty Type	All Physicians (Percent)		Percent Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	43.3%	18.5%	17.0%	21.1%
General practitioner	29.0	100.0	62.4	14.1	11.6	11.9
Medical	23.9	100.0	35.2	20.4	18.6	25.7
Surgical	28.6	100.0	37.4	21.0	19.7	22.0
Other	18.5	100.0	33.2	18.8	19.5	28.5

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q19

Percent of Medicare Revenue from Assigned Claims by Specialty Type:

Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	2,294	1,032	461	372	429
General practitioner	665	401	124	83	57
Medical	548	190	120	108	130
Surgical	656	267	133	125	131
Other	425	174	84	56	111

Specialty Type	All Physicians (Percent)		Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	45.0%	20.1%	16.2%	18.7%
General practitioner	29.0	100.0	60.3	18.6	12.5	8.6
Medical	23.9	100.0	34.7	21.9	19.7	23.7
Surgical	28.6	100.0	40.7	20.3	19.1	20.0
Other	18.5	100.0	40.9	19.8	13.2	26.1

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q20

Revenue from Unassigned Claims by Physician's Medicare Revenue Class:

Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Total Revenue from Unassigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	2,294	866	962	393	73
Very low (under $1,000)	705	705	-	-	-
Low ($1,000-19,999)	980	150	830	-	-
Medium ($20,000-59,999)	467	9	120	338	-
High ($60,000 and over)	142	2	12	55	73

Medicare Revenue Class	All Physicians (Percent)		Total Revenue from Unassigned Claims: Under $1,000	$1,000 - 19,999	$20,000 - 59,999	$60,000 and Over
All physicians	100.0%	100.0%	37.8%	41.9%	17.1%	3.2%
Very low	30.7	100.0	100.0	-	-	-
Low	42.7	100.0	15.3	84.7	-	-
Medium	20.4	100.0	1.9	25.7	72.4	-
High	6.2	100.0	1.4	8.5	38.7	51.4

Source: GHI Provider Profile Printout, 1 July 1978, PIPGC826.

TABLE 12-Q21

Unassigned Program Outlay by Physician's Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Unassigned Outlay			
		Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,294	1,033	1,073	175	13
Very low (under $1,000)	705	705	-	-	-
Low ($1,000-19,999)	980	309	671	-	-
Medium ($20,000-59,999)	467	16	376	75	-
High (60,000 and over)	142	3	26	100	13

Medicare Revenue Class	All Physicians (Percent)		Unassigned Outlay			
			Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	45.0%	46.8%	7.6%	0.6%
Very low	30.7	100.0	100.0	-	-	-
Low	42.7	100.0	31.5	68.5	-	-
Medium	20.4	100.0	3.4	80.5	16.1	-
High	6.2	100.0	2.1	18.3	70.4	9.2

Source: GHI Provider Profile Printout, 15 July 1978, PIPGC904.

TABLE 12-Q22

Unassigned Program Outlay by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Unassigned Outlay			
		Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,294	1,033	1,073	175	13
General practitioner	665	250	405	10	-
Medical	548	217	248	77	6
Surgical	656	305	270	75	6
Other	425	261	150	13	1

Specialty Type	All Physicians (Percent)		Unassigned Outlay			
			Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	45.0%	46.8%	7.6%	0.6%
General practitioner	29.0	100.0	37.6	60.9	1.5	-
Medical	23.9	100.0	39.6	45.3	14.1	1.1
Surgical	28.6	100.0	46.5	41.2	11.4	0.9
Other	18.5	100.0	61.4	35.3	3.1	0.2

Source: GHI Provider Profile Printout, 15 July 1978, PIPGC904.

TABLE 12-Q23

Total Submitted Charges by Physician's Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Submitted Charges: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,294	644	963	491	196
Very low (under $1,000)	705	644	61	-	-
Low ($1,000-19,999)	980	-	902	78	-
Medium ($20,000-59,999)	467	-	-	413	54
High ($60,000 and over)	142	-	-	-	142

Medicare Revenue Class	All Physicians (Percent)		Submitted Charges: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	28.1%	42.0%	21.4%	8.5%
Very low	30.7	100.0	91.3	8.7	-	-
Low	42.7	100.0	-	92.0	8.0	-
Medium	20.4	100.0	-	-	88.4	11.6
High	6.2	100.0	-	-	-	100.0

Source: BC/BS Provider Profile Printout, 15 July 1978, PIPGC904.

TABLE 12-Q24

Total Submitted Charge by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Submitted Charges: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,294	644	963	491	196
General practitioner	665	168	346	139	12
Medical	548	117	182	162	87
Surgical	656	173	277	125	81
Other	425	186	158	65	16

Specialty Type	All Physicians (Percent)		Submitted Charges: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	28.1%	42.0%	21.4%	8.5%
General practitioner	29.0	100.0	25.3	52.0	20.9	1.8
Medical	23.9	100.0	21.4	33.2	29.6	15.9
Surgical	28.6	100.0	26.4	42.2	19.1	12.4
Other	18.5	100.0	43.8	37.2	15.3	3.8

Source: GHI Provider Profile printout, 15 July 1978, PIPGC904.

TABLE 12-Q25

Total Program Outlay by Physician's Medicare Revenue Class: Queens Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Program Outlay			
		Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,294	813	1,115	313	53
Very low (under $1,000)	708	705	-	-	-
Low ($1,000-19,999)	980	108	872	-	-
Medium ($20,000-59,999)	467	-	243	224	-
High ($60,000 and over)	142	-	-	89	53

Medicare Revenue Class	All Physicians (Percent)		Program Outlay			
			Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	35.4%	48.6%	13.6%	2.3%
Very low	30.7	100.0	100.0	-	-	-
Low	42.7	100.0	11.0	89.0	-	-
Medium	20.4	100.0	-	52.0	48.0	-
High	6.2	100.0	-	-	62.7	37.3

Source: GHI Provider Profile Printout, 15 July 1978, PIPGC904.

TABLE 12-Q26

Total Program Outlay by Specialty Type: Queens Physicians, 1976

Specialty Type	All Physicians (Number)	Program Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,294	813	1,115	313	53
General practitioner	665	209	414	40	2
Medical	548	149	243	139	17
Surgical	656	235	284	112	25
Other	425	220	174	22	9

Specialty Type	All Physicians (Percent)		Program Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	35.4%	48.6%	13.6%	2.3%
General practitioner	29.0	100.0	31.4	62.3	6.0	0.3
Medical	23.9	100.0	27.2	44.3	25.4	3.1
Surgical	28.6	100.0	35.8	43.3	17.1	3.8
Other	18.5	100.0	51.8	40.9	5.2	2.1

Source: GHI Provider Profile printout, 15 July 1978, PIPGC904.

TABLE 12-N1

Selected Statistics for Nassau-Physician Providers under Medicare, 1976 [1/]

Variable [2/]	Mean per Physician	Standard Deviation	Minimum Value	Maximum Value	Aggregate of all Physicians where Applicable	Coefficient of Variation $\sigma/\bar{x}$
Number of procedures	26.14	25.82	1.00	239.00		0.99
Number of services	1,052.41	2,525.79	1.00	95,578.00	2,824,664.00	2.40
Number of patients [3/]	138.64	202.58	1.00	3,416.00	372,100.00[c]	1.46
Assigned claims	267.61	1,113.45	0	44,749.00	718,264.00	4.16
Unassigned claims	351.02	618.10	0	10,349.00	942,131.00	1.76
Assigned + unassigned claims	618.63	-	-	-	1,660,395.00	-
Percent assigned claims	35.94%	33.73	0%	100.00%	-	0.94
Assigned + unassigned claims per patient	4.46	-	-	-	-	-
Services per assigned + unassigned claim	1.70	-	-	-	-	-
Services per patient	7.28	7.38	0.82	80.00	-	1.01
Assigned revenue	$10,247.03	27,125.93	0.00	$845,275.30	$27,503,034.66	2.65
Unassigned revenue	$13,325.36	19,640.35	0.00	$215,320.12	$35,765,261.88	1.47
Assigned revenue + unassigned revenue	$23,572.39	37,460.51	0.00	$858,215.30	$63,268,296.54	1.59
Percent assigned revenue	36.17%	33.81	0%	100%	-	0.93
Average revenue per assigned claim	$38.29	-	-	-	-	-
Average revenue per unassigned claim	$37.96	-	-	-	-	-
Average revenue per assigned + unassigned claim	$38.10	-	-	-	-	-

TABLE 12-N1 (continued)

Selected Statistics for Nassau-Physician Providers under Medicare, 1976 [1/] (cont.)

Variable [2/]	Mean per Physician	Standard Deviation	Minimum Value	Maximum Value	Aggregate for all Physicians where Applicable	Coefficient of Variation $\sigma/\bar{x}$
Assigned + unassigned revenue per patient	$170.03	-	-	-	-	-
Assigned + unassigned revenue per service	$22.40	-	-	-	-	-
Total submitted charges	$29,002.87	46,905.59	$7.50	$1,037,220.86	$77,843,700.92	1.62
Submitted charge per patient	$209.20	-	-	-	-	-
Submitted charge per service	$27.56	-	-	-	-	-
Assigned outlay	$8,197.63	21,700.74	0	$876,220.24	$22,002,426.58	2.65
Unassigned outlay	$8,280.16	12,254.38	0	$126,183.35	$22,223,948.81	1.48
Total program outlay	$17,772.65	29,230.38	$4.80	$703,641.16	$47,701,797.74	1.64
Outlay per assigned + unassigned claim	$26.64	-	-	-	-	-
Outlay per patient	$128.20	-	-	-	-	-
Outlay per service	$16.89	-	-	-	-	-

1/ 2,684 physicians for all variables except percents assigned claims and assigned revenue, which have 2,654.

2/ For all outlay variables, no adjustment for deductible payment was made, and claims unidentified as to assignment status were excluded from claims and revenue variables.

3/ Patients who have seen more than one doctor counted more than once.

Source: BC/BS Provider Profile printout, 3 July 1978, PIPGC835.

TABLE 12-N2

Number of Patients per Physician by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Number of Patients: Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	2,594	839	242	352	508	464	189
General practitioner	584	200	53	110	129	84	8
Medical	703	168	47	63	151	206	68
Surgical	796	195	101	135	147	133	85
Other	511	276	41	44	81	41	28

Specialty Type	All Physicians (Percent)	Number of Patients: Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	100.0%	100.0%	32.3%	9.3%	13.6%	19.6%	17.9%	7.3%
General practitioner	22.5	100.0	34.3	9.1	18.8	22.1	14.4	1.4
Medical	27.1	100.0	23.9	6.7	9.0	21.5	29.3	9.7
Surgical	30.7	100.0	24.5	12.7	17.0	18.5	16.7	10.7
Other	19.7	100.0	54.0	8.0	8.6	15.9	8.0	5.5

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N3

Number of Patients per Physician by Medicare Revenue Class: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Number of Patients: Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	2,594	839	242	352	508	464	189
Very low (Under $1,000)	598	588	10	-	-	-	-
Low ($1,000-19,999)	1,013	251	224	283	184	69	2
Medium ($20,000-59,999)	686	-	8	65	275	268	70
High ($60,000 and over)	297	-	-	4	49	127	117

Medicare Revenue Class	All Physicians (Percent)		Number of Patients: Under 25	25-49	50-99	100-199	200-399	400 and Over
All physicians	100.0%	100.0%	32.3%	9.3%	13.6%	19.6%	17.9%	7.3%
Very low	23.1	100.0	98.3	1.7	-	-	-	-
Low	39.1	100.0	24.8	22.1	27.9	18.2	6.8	0.2
Medium	26.4	100.0	-	1.2	9.5	40.1	39.1	10.2
High	11.4	100.0	-	-	1.3	16.5	42.8	39.4

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N4

Number of Services per Physician by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Number of Services Under 100	100-999	1,000 and Over
All physicians	2,594	853	912	829
General practitioner	584	178	188	218
Medical	703	148	172	383
Surgical	796	267	399	130
Other	511	260	153	98

Specialty Type	All Physicians (Percent)		Number of Services Under 100	100--999	1,000 and Over
All physicians	100.0%	100.0%	32.9%	35.2%	32.0%
General practitioner	22.5	100.0	30.5	32.2	37.3
Medical	27.1	100.0	21.1	24.5	54.5
Surgical	30.7	100.0	33.5	50.1	16.3
Other	19.7	100.0	50.9	29.9	19.2

Source: BC/BS Provider Profile printout, 3 July 1978, PIPGC835.

TABLE 12-N5

Number of Services per Physician by Medicare Revenue Class: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Number of Services Under 100	100-999	1,000 and Over
All physicians	2,594	853	912	829
Very low (under $1,000)	598	583	15	-
Low ($1,000-19,999)	1,013	267	636	110
Medium ($20,000-59,999)	686	3	195	488
High ($60,000 and over)	297	-	66	231

Medicare Revenue Class	All Physicians (Percent)		Number of Services Under 100	100-999	1,000 and Over
All physicians	100.0%	100.0%	32.9%	35.2%	32.0%
Very low	23.1	100.0	97.5	2.5	-
Low	39.1	100.0	26.4	62.8	10.9
Medium	26.4	100.0	0.4	28.4	71.1
High	11.4	100.0	-	22.2	77.8

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N6

Number of Services per Patient by Medicare Revenue Class: Nassau Physicians, 1976 [1/]

Medicare Revenue Class	All Physicians [1/] (Number)	Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	2,592	488	923	664	393	124
Very low (Under $1,000)	598	225	215	82	56	20
Low ($1,000-19,999)	1,012	195	369	275	137	36
Medium ($20,000-59,999)	685	52	211	249	134	39
High ($60,000 and over)	297	16	128	58	66	29

Medicare Revenue Class	All Physicians (Percent)		Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	100.0%	100.0%	18.8%	35.6%	25.6%	15.2%	4.8%
Very low	23.1	100.0	37.6	36.0	13.7	9.4	3.3%
Low	39.0	100.0	19.3	36.5	27.2	13.5	3.6
Medium	26.4	100.0	7.6	30.8	36.4	19.6	5.7
High	11.5	100.0	5.4	43.1	19.5	22.2	9.8

[1/] Only 2,592 physicians as two physicians from "other" specialties were not included.

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N7

Number of Services per Patient by Specialty Type: Nassau Physicians, 1976 [1/]

Specialty Type	All Physicians [1/] (Number)	Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	2,592	488	923	664	393	124
General practitioner	584	65	136	211	122	50
Medical	703	53	177	231	189	53
Surgical	796	255	461	60	17	3
Other	509	115	149	162	65	18

Specialty Type	All Physicians (Percent)		Number of Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and Over
All physicians	100.0%	100.0%	18.8%	35.6%	25.6%	15.2%	4.8%
General practitioner	22.5	100.0	11.1	23.3	36.1	20.9	8.6
Medical	27.1	100.0	7.5	25.2	32.9	26.9	7.5
Surgical	30.7	100.0	32.0	57.9	7.5	2.1	0.4
Other	19.6	100.0	22.6	29.3	31.8	12.8	3.5

[1/] Only 2,592 physicians as two physicians from "other" specialties were not included.

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N8

Number of Different Procedures per Physician by Medicare Revenue Class: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Number of Procedures		
		Under 10	10-29	30 and Over
All physicians	2,594	846	841	907
Very low (under $1,000)	598	555	42	1
Low ($1,000-19,999)	1,013	287	559	167
Medium ($20,000-59,999)	686	4	206	476
High ($60,000 and over)	297	----	34	263

Medicare Revenue Class	All Physicians (Percent)		Number of Procedures		
			Under 10	10-29	30 and Over
All physicians	100.0%	100.0%	32.6%	32.4%	35.0%
Very low	23.1	100.0	92.8	7.0	0.2
Low	39.1	100.0	28.3	55.2	16.5
Medium	26.4	100.0	0.6	30.0	69.4
High	11.4	100.0	----	11.4	88.6

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N9

Number of Different Procedures per Physician by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Number of Procedures: Under 10	10-29	30 and Over
All physicians	2,594	846	841	907
General practitioner	584	232	212	140
Medical	703	151	266	286
Surgical	796	200	257	339
Other	511	263	106	142

Specialty Type	All Physicians (Percent)		Number of Procedures: Under 10	10-29	30 and Over
All physicians	100.0%	100.0%	32.6%	32.4%	35.0%
General practitioner	22.5	100.0	39.7	36.3	24.0
Medical	27.1	100.0	21.5	37.8	40.7
Surgical	30.7	100.0	25.1	32.3	42.6
Other	19.7	100.0	51.5	20.7	27.8

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N10

Office vs. Hospital As Place of Service by Medicare Revenue Class: Nassau Physicians, 1976 [1/]

Medicare Revenue Class	All Physicians (Number)	Place of Service: Office	Hospital	Both	Neither
All physicians	2,594	600	166	1,786	42
Very low (under $1,000)	598	398	57	106	37
Low ($1,000-19,999)	1,013	187	50	771	5
Medium ($20,000-59,999)	686	14	57	615	-
High ($60,000 and over)	297	1	2	294	-

Medicare Revenue Class	All Physicians (Percent)		Place of Service: Office	Hospital	Both	Neither
All physicians	100.0%	100.0%	23.1%	6.4%	68.9%	1.6%
Very low	23.1	100.0	66.6	9.5	17.7	6.2
Low	39.1	100.0	18.5	4.9	76.1	0.5
Medium	26.4	100.0	2.0	8.3	89.7	-
High	11.4	100.0	0.3	0.7	99.0	-

1/ Physicians were classed as "office" if they rendered service in nursing homes and patient homes as well as in offices - so long as there were no hospital-based services. Similarly, physicians were classed as "hospital" even if they provided care in residences and nursing homes.

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N11

Office vs. Hospital As Place of Service by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Place of Service 1/ Office	Hospital	Both	Neither
All physicians	2,594	600	166	1,786	42
General practitioner	584	199	26	345	14
Medical	703	127	13	547	16
Surgical	796	95	21	676	4
Other	511	179	106	218	8

Specialty Type	All Physicians (Percent)		Place of Service Office	Hospital	Both	Neither
All physicians	100.0%	100.0%	23.1%	6.4%	68.9%	1.6%
General practitioner	22.5	100.0	34.1	4.5	59.1	2.4
Medical	27.1	100.0	18.1	1.8	77.8	2.3
Surgical	30.7	100.0	11.9	2.6	84.9	0.5
Other	19.7	100.0	35.0	20.7	42.7	1.6

1/ See footnote to Table 12-N10.

Source: BC/B$ Provider profile printout, 3 July 1978, PPIGC835.

TABLE 12-N12

Medicare Revenue by Specialty Type: Nassau Physicians, 1976 [1/]

Specialty Type	All Physicians (Number)	Medicare Revenue Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	598	1,013	686	297
General practitioner	584	158	286	124	16
Medical	703	127	197	262	117
Surgical	796	117	322	212	145
Other	511	196	208	88	19

Specialty Type	All Physicians (Percent)		Medicare Revenue Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	23.1%	39.1%	26.4%	11.4%
General practitioner	22.5	100.0	27.1	49.0	21.2	2.7
Medical	27.1	100.0	18.1	28.0	37.3	16.6
Surgical	30.7	100.0	14.7	40.5	26.6	18.2
Other	19.7	100.0	38.4	40.7	17.2	3.7

1/ Not total Medicare revenue as about 7% of all claims could not be identified as assigned or unassigned.

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N13

Assigned Claims As Percent of Total Claims by Physician's Medicare Revenue Class: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Percent Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	2,594	793	666	596	539
Very low (under $1,000)	598	319	45	67	167
Low ($1,000-19,999)	1,013	334	273	220	186
Medium ($20,000-59,999)	686	117	262	195	112
High ($60,000 and over)	297	23	86	114	74

Medicare Revenue Class	All Physicians (Percent)		Percent Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	30.6%	25.7%	23.0%	20.8%
Very low	23.1	100.0	53.3	7.5	11.2	27.9
Low	39.1	100.0	33.0	26.9	21.7	18.4
Medium	26.4	100.0	17.1	38.2	28.4	16.3
High	11.4	100.0	7.7	29.0	38.4	24.9

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.
10 July 1978/CL.

TABLE 12-N14

Revenue from Assigned Claims by Physician's Medicare Revenue Class: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Total Revenue from Assigned Claims			
		Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	1,086	1,157	265	86
Very low (under $1,000)	598	598	---	---	----
Low ($1,000-19,999	1,013	463	550	---	----
Medium ($20,000-59,999	686	24	514	148	----
High ($60,000 and over)	297	1	93	117	86

Medicare Revenue Class	All Physicians (Percent)		Total Revenue from Assigned Claims			
			Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	41.9%	44.6%	10.2%	3.3%
Very low	23.1	100.0	100.0	----	---	----
Low	39.1	100.0	45.7	54.3	---	----
Medium	26.4	100.0	3.5	74.9	21.6	----
High	11.4	100.0	0.3	31.3	39.4	29.0

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N15

Percent of Medicare Revenue from Assigned Claims by Physician's Medicare Revenue Class: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	2,594	801	621	640	532
Very low (under $1,000)	598	327	42	63	166
Low ($1,000-19,999)	1,013	349	243	237	184
Medium ($20,000-59,999)	686	108	245	230	103
High ($60,000 and over)	297	17	91	110	79

Medicare Revenue Class	All Physicians (Percent)		Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	30.9%	23.9%	24.7%	20.5%
Very low	23.1	100.0	54.7	7.0	10.5	27.8
Low	39.1	100.0	34.5	24.0	23.4	18.2
Medium	26.4	100.0	15.7	35.7	33.5	15.0
High	11.4	100.0	5.7	30.6	37.0	26.6

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N16

Revenue from Assigned Claims by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Total Revenue from Assigned Claims: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	1,086	1,157	265	86
General practitioner	584	302	257	17	8
Medical	703	214	340	112	37
Surgical	796	272	380	107	37
Other	511	298	180	29	4

Specialty Type	All Physicians (Percent)		Total Revenue from Assigned Claims: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	41.9%	44.6%	10.2%	3.3%
General practitioner	22.5	100.0	51.7	44.0	2.9	1.4
Medical	27.1	100.0	30.4	48.4	15.9	5.3
Surgical	30.7	100.0	34.2	47.7	13.4	4.7
Other	19.7	100.0	58.3	35.2	5.7	0.8

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N17

Revenue from Unassigned Claims by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Total Revenue from Unassigned Claims			
		Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	792	1,172	544	86
General practitioner	584	187	320	75	2
Medical	703	177	270	231	25
Surgical	796	176	386	181	53
Other	511	252	196	57	6

Specialty Type	All Physicians (Percent)		Total Revenue from Unassigned Claims			
			Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	30.5%	45.2%	21.0%	3.3%
General practitioner	22.5	100.0	32.0	54.8	12.8	0.3
Medical	27.1	100.0	25.2	38.4	32.9	3.6
Surgical	30.7	100.0	22.1	48.5	22.7	6.7
Other	19.7	100.0	49.3	38.4	11.2	1.2

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N18

Assigned Claims As Percent of Total Claims by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Percent Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	2,594	793	666	596	539
General practitioner	584	250	136	110	88
Medical	703	181	199	168	155
Surgical	796	191	212	224	169
Other	511	171	119	94	127

Specialty Type	All Physicians (Percent)		Percent Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	30.6 %	25.7 %	23.0 %	20.8 %
General practitioner	22.5	100.0	42.8	23.3	18.8	15.1
Medical	27.1	100.0	25.8	28.3	23.9	22.1
Surgical	30.7	100.0	24.0	26.6	28.1	21.2
Other	19.7	100.0	33.5	23.3	18.4	24.9

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N19

Percent of Medicare Revenue from Assigned Claims by Specialty Type: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	2,594	801	621	640	532
General practitioner	584	238	126	136	84
Medical	703	169	167	204	163
Surgical	796	204	211	216	165
Other	511	190	117	84	120

Specialty Type	All Physicians (Percent)		Percent of Total Revenue from Assigned Claims Under 10%	10-29%	30-69%	70% and Over
All physicians	100.0%	100.0%	30.9%	23.9%	24.7%	20.5%
General practitioner	22.5	100.0	40.8	21.6	23.3	14.4
Medical	27.1	100.0	24.0	23.8	29.0	23.2
Surgical	30.7	100.0	25.6	26.5	27.1	20.7
Other	19.7	100.0	37.2	22.9	16.4	23.5

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N20

Revenue from Unassigned Claims by Physician's Medicare Revenue Class: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Total Revenue from Unassigned Claims			
		Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	792	1,172	544	86
Very low (under $1,000)	598	598	----	---	--
Low ($1,000-19,999)	1,013	159	854	---	--
Medium ($20,000-59,999)	686	29	268	389	--
High ($60,000 and over)	297	6	50	155	86

Medicare Revenue Class	All Physicians (Percent)		Total Revenue from Unassigned Claims			
			Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All Physicians	100.0%	100.0%	30.5%	45.2%	21.0%	3.3%
Very low	23.1	100.0	100.0	---	---	--
Low	39.1	100.0	15.7	84.3	---	--
Medium	26.4	100.0	4.2	39.1	56.7	--
High	11.4	100.0	2.0	16.8	52.2	29.0

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N21

Unassigned Program Outlay by Physician's Medicare Revenue Class: Nassau Physicians, 1976 [1/]

Medicare Revenue Class	All Physicians (Number)	Unassigned Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	936	1,284	352	22
Very low (under $1,000)	598	598	-	-	-
Low ($1,000-19,999)	1,013	291	722	-	-
Medium ($20,000-59,999)	686	37	485	164	-
High ($60,000 and over)	297	10	77	188	22

Medicare Revenue Class	All Physicians (Percent)		Unassigned Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	36.1%	49.5%	13.6%	0.8%
Very low	23.1	100.0	100.0	-	-	-
Low	39.1	100.0	28.7	71.3	-	-
Medium	26.4	100.0	5.4	70.7	23.9	-
High	11.4	100.0	3.4	25.9	63.3	7.4

1/ Program outlay computed as 80% of reasonable charge, with no adjustment for deductible payment.

Source: BC/BS Provider Profile printout, 3 July 1978, PIPGC835.

TABLE 12-N22

Unassigned Program Outlay by Specialty Type: Nassau Physicians, 1976 [1/]

Specialty Type	All Physicians (Number)	Unassigned Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	936	1,284	352	22
General practitioner	584	219	335	30	-
Medical	703	197	352	146	8
Surgical	796	224	406	154	12
Other	511	296	191	22	2

Specialty Type	All Physicians (Percent)		Unassigned Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	36.1%	49.5%	13.6%	0.8%
General practitioner	22.5	100.0	37.5	57.4	5.1	-
Medical	27.1	100.0	28.0	50.1	20.8	1.1
Surgical	30.7	100.0	28.1	51.0	19.6	1.5
Other	19.7	100.0	57.9	37.4	4.3	0.4

[1/] Program outlay computed as 80% of reasonable charge, with no adjustment for deductible payment.

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N23

Total Submitted Charges by Physician's Medicare Revenue Class: Nassau Physicians, 1976

Specialty Type	All Physicians (Number)	Submitted Charges: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	547	970	672	405
General practitioner	584	151	267	140	26
Medical	703	117	186	239	161
Surgical	796	105	302	198	191
Other	511	174	215	95	27

Specialty Type	All Physicians (Percent)		Submitted Charges: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	21.1%	37.4%	25.9%	15.6%
General practitioner	22.5	100.0	25.9	45.7	24.0	4.5
Medical	27.1	100.0	16.6	26.5	34.0	22.9
Surgical	30.7	100.0	13.2	37.9	24.9	24.0
Other	19.7	100.0	34.1	42.1	18.6	5.3

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-N24

Total Submitted Charges by Specialty Type: Nassau Physicians, 1976

Medicare Revenue Class	All Physicians (Number)	Submitted Charges Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	547	970	672	405
Very low (Under $1,000)	598	547	51	-	-
Low (1,000-$19,999)	1,013	-	919	94	-
Medium ($20,000-59,999)	686	-	-	578	108
High ($60,000 and over)	297	-	-	-	297

Medicare Revenue Class	All Physicians (Percent)		Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	21.1%	37.4%	25.9%	15.6%
Very low	23.1	100.0	91.5	8.5	-	-
Low	39.1	100.0	-	90.7	9.3	-
Medium	26.4	100.0	-	-	84.3	15.7
High	11.4	100.0	-	-	-	100.0

Source: BC/BS Provider Profile printout, 3 July 1978, PIPGC835.

TABLE 12-N25

Total Program Outlay by Physician's Medicare Revenue Class: Nassau Physicians, 1976 1/

Medicare Revenue Class	All Physicians (Number)	Program Outlay Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	675	1,104	643	172
Very low (Under $1,000)	598	595	3	-	-
Low ($1,000-19,999)	1,013	80	933	-	-
Medium ($20,000-59,999)	686	-	168	518	-
High ($60,000 and over)	297	-	-	125	172

Medicare Revenue Class	All Physicians (Percent)		Program Outlay Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	26.0%	42.6%	24.8%	6.6%
Very low	23.1	100.0	99.5	0.5	-	-
Low	39.1	100.0	7.9	92.1	-	-
Medium	26.4	100.0	-	24.5	75.5	-
High	11.4	100.0	-	-	42.1	57.9

1/ Program outlay computed as 80% of reasonable charge, with no adjustment for deductible payment.

Source: BC/BS Provider Profile printout, 3 July 1978, PIPGC835.

TABLE 12-N26

Total Program Outlay by Specialty Type: Nassau Physicians, 1976 [1/]

Specialty Type	All Physicians (Number)	Program Outlay Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and over
All physicians	2,594	675	1,104	643	172
General practitioner	584	177	305	93	9
Medical	703	139	227	264	73
Surgical	796	137	355	224	80
Other	511	222	217	62	10

Specialty Type	All Physicians (Percent)		Program Outlay Under $1,000	$1,000-19,999	$20,000-59,000	$60,000 and over
All physicians	100.0%	100.0%	26.0%	42.6%	24.8%	6.6%
General practitioner	22.5	100.0	30.3	52.2	15.9	1.5
Medical	27.1	100.0	19.8	32.3	37.6	10.4
Surgical	30.7	100.0	17.2	44.6	28.1	10.1
Other	19.7	100.0	43.4	42.5	12.1	2.0

1/ Program outlay computed as 80% of reasonable charge, with no adjustment for deductible payment.

Source: BC/BS Provider Profile printout, 3 July 1978, PIPGC835.

TABLE 12-N27

Assigned Program Outlay by Specialty Type: Nassau Physicians, 1976 [1/]

Specialty Types	All Physicians (Number)	Assigned Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	1,146	1,163	228	57
General practitioner	584	316	246	15	7
Medical	703	228	351	102	22
Surgical	796	291	391	89	25
Other	511	311	175	22	3

Specialty Types	All Physicians (Percent)		Assigned Outlay: Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	44.2%	44.8%	8.8%	2.2%
General practitioner	22.5	100.0	54.1	42.1	2.6	1.2
Medical	27.1	100.0	32.4	49.9	14.5	3.1
Surgical	30.7	100.0	36.6	49.1	11.2	3.1
Other	19.7	100.0	60.9	34.3	4.3	0.6

1/ Program outlay computed as 80% of reasonable charge, with no adjustment for deductible payment.

Source: BC/BS Provider Profile printout, 3 July 1978, PIPGC835.

TABLE 12-N28

Assigned Program Outlay by Physician's Medicare Revenue Class: Nassau Physicians 1976 1/

Medicare Revenue Class	All Physicians (Number)	Assigned Outlay Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	2,594	1,146	1,163	228	57
Very low (under $1,000)	598	598	-	-	-
Low ($1,000-19,999)	1,013	514	499	-	-
Medium ($20,000-59,999)	686	33	548	105	-
High ($60,000 and over)	297	1	116	123	57

Medicare Revenue Class	All Physicians (Percent)		Assigned Outlay Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and Over
All physicians	100.0%	100.0%	44.2%	44.8%	8.8%	2.2%
Very low	23.1	100.0	100.0	-	-	-
Low	39.1	100.0	50.7	49.3	-	-
Medium	26.4	100.0	4.8	79.9	15.3	-
High	11.4	100.0	0.3	39.1	41.4	19.2

1/ Program outlay computed as 80% of reasonable charge, with no adjustment for deductible payment.

Source: BC/BS Provider Profile Printout, 3 July 1978, PIPGC835.

TABLE 12-1

Comparison of Means Per Physician: Selected Measures of Medicare Experience for Queens and Nassau, 1976

Variable	Mean Per Physician 1/		Difference	
	1 Queens	2 Nassau 2/	3 (2-1) Absolute	4 (3/1) Percent
Number of procedures	15.46	26.14	10.68	69.1%
Number of services	730.11	1,052.41	322.30	44.1
Number of patients	116.15	138.64	22.49	19.4
Assigned claims	113.69	267.61	153.92	135.4
Unassigned claims	280.34	351.02	70.68	25.2
Assigned + unassigned claims	394.03	618.63	224.60	57.0
Percent assigned claims	32.23%	35.94%	3.71%	11.5
Assigned + unassigned claims per patient	3.39	4.46	1.07	31.6
Services per assigned + unassigned claim	1.85	1.70	-0.15	-8.1
Services per patient	5.51	7.28	1.77	32.1
Assigned revenue	$ 4,233.75	$10,247.03	$ 6,013.28	142.0
Unassigned revenue	$11,469.56	$13,325.36	$ 1,855.80	16.2
Assigned + unassigned revenue	$15,703.31	$23,572.39	$ 7,869.08	50.1
Percent assigned revenue	29.84%	36.17%	6.33%	21.2
Average revenue per assigned claim	$ 37.24	$ 38.29	$ 1.05	2.8
Average revenue per unassigned claim	$ 40.91	$ 37.96	-$ 2.95	-7.2
Average revenue per assigned + unassigned claim	$ 39.85	$ 38.10	-$ 1.75	-4.4
Assigned + unassigned revenue per patient	$135.20	$170.03	$34.83	25.8
Assigned + unassigned revenue per service	$ 21.51	$ 22.40	$ 0.89	4.1

TABLE 12-1 (continued)

Comparison of Means Per Physician: Selected Measures of Medicare Experience for Queens and Nassau, 1976

Variable	Mean Per Physician [1] 1 Queens	2 Nassau [2]	Difference 3 (2-1) Absolute	4 (3/1) Percent
Total submitted charges	$18,988.36	$29,002.87	$10,014.51	52.7%
Submitted charge per patient	$ 163.48	$ 209.20	$ 45.72	28.0
Submitted charge per service	$ 26.01	$ 27.56	$ 1.55	6.0
Assigned outlay	$ 4,233.75	$ 8,197.63	$ 3,963.88	93.6
Unassigned outlay	$ 5,975.12	$ 8,280.16	$ 2,305.04	38.6
Total program outlay	$10,208.87	$17,772.65	$ 7,563.78	74.1
Outlay per assigned + unassigned claim	**$ 25.91**	**$ 26.64**	**$ 0.73**	**2.8**
Outlay per patient	**$ 87.89**	**$128.20**	**$ 40.31**	**45.9**
Outlay per service	**$ 13.98**	**$ 16.89**	**$ 2.91**	**20.8**

1/ For GHI, 2,335 physicians for all variables except percent assigned revenue, which has 2,324, and for BC/BS, 2,684 physicians for all variables except percents assigned claims and assigned revenue, which have 2,654.

2/ For all outlay variables, no adjustment for deductible payment was made, and claims unidentified as to assignment status were excluded for claims and revenue variables.

Source: Physician Provider Profile printouts for GHI and BC/BS, 15 July 1978, PIPGC904, and 3 July 1978, PIPGC835, respectively.

TABLE 12-1 (continued) Z TEST

Comparison of Means Per Physician: Selected Measures of Medicare Experience for Queens and Nassau, 1976

Variable	Z^{*} $\left(\frac{\bar{X}_{BC/BS} - \bar{X}_{GHI}}{\sigma_D}\right)$
Number of procedures	17.42
Number of services	5.77
Number of patients	4.73
Assigned claims	6.86
Unassigned claims	4.36
Assigned + unassigned claims	-
Percent assigned claims	3.76
Assigned + unassigned claims per patient	-
Services per assigned + unassigned claim	-
Services per patient	8.06
Assigned revenue	10.56
Unassigned revenue	3.42
Assigned + unassigned revenue	8.88
Percent assigned revenue	6.52
Average revenue per assigned claim	-
Average revenue per unassigned claim	-
Average revenue per assigned + unassigned claim	-
Assigned + unassigned revenue per patient	-
Assigned + unassigned revenue per service	-
Total submitted charges	9.08
Submitted charge per patient	-
Submitted charge per service	-
Assigned outlay	8.34
Unassigned outlay	7.21
Total program outlay	11.29
Outlay per assigned + unassigned claim	-
Outlay per patient	-
Outlay per service	-

* All Z values are significant at the 5% level of significance.

TABLE 12-2

Comparison of Physicians in Five Leading Specialties by Selected Aspects of Medicare Experience, Queens and Nassau, 1976

Variable	Percent of physicians in indicated category for each variable - Queens					Nassau				
	General Practice 01	Internal Medicine 11	Surgery 02	Obstetrics/ Gynecology 16	Ophthal-mology 18	General Practice 01	Internal Medicine 11	Surgery 02	Obstetrics/ Gynecology 16	Ophthal-mology 18
30+ procedures	8.3	19.2	34.8	0.6	3.1	20.9	44.2	64.5	2.3	28.2
1,000+ services	28.8	49.9	7.0	-	30.2	34.4	63.4	12.5	0.6	39.3
Place of service-office	38.6	23.0	16.6	34.4	31.2	36.8	11.3	7.5	19.3	12.8
Assigned claims under 10%	62.7	36.0	27.3	51.1	47.9	44.9	23.5	14.0	42.1	26.5
Assigned revenue 70+%	8.8	23.9	20.3	18.9	15.6	13.9	20.6	25.5	13.1	22.2
400+ patients	1.6	9.8	-	-	40.6	0.9	10.5	-	-	50.4
11+ services per patient	16.3	20.1	4.8	1.7	-	28.6	38.7	4.5	1.7	-
Assigned revenue: $20,000+	1.3	11.2	6.4	-	7.3	3.2	23.1	23.0	-	21.3
Unassigned revenue: $20,000+	13.6	34.4	26.7	0.6	39.6	12.2	41.8	37.5	0.6	42.7
Total revenue: $60,000+	0.5	12.5	8.0	-	15.6	2.3	18.5	20.0	-	23.9
Submitted charges: $60,000+	1.4	17.9	10.2	-	16.7	3.2	25.5	28.0	-	31.6
Assigned outlay: $20,000+	1.3	11.2	6.4	-	7.3	2.6	19.5	18.0	-	15.4
Unassigned outlay: $20,000+	1.4	17.4	11.3	-	20.9	4.9	25.5	25.0	-	30.8
Total outlay: $20,000+	5.5	31.3	22.5	-	32.3	15.2	55.1	49.5	0.6	54.7

Source: BC/BS Provider Profile Printout, Individual Practice, 3 July 1978, PIPGC835 and GHI Provider Profile Printout by Specialty Type, 14 July 1978, PIPGC904.

TABLE 12-3

A Comparison of Selected Characteristics of Physicians in Queens and Nassau, by Specialty

Characteristic	Nassau Specialty	Nassau Percent of Physicians	Queens Specialty	Queens Percent of Physicians
Performed 30 or more procedures	Orthopedists	83%	Orthopedists	55%
			Anesthesiologists	60+
	Surgeons, Anesthesiologists, Gastroenterologists, Urologists	60+		
Performed 1,000 or more services	Family Practitioners, Pulmonary Specialists	67+	Family Practitioners	80
			Internists	50
	Internists, Cardiologists	63		
	Gastroenterologists, Nephrologists	50+		
Number of patients: 400 or more	Ophthalmologists	50	Ophthalmologists	40
	Proctologists	25		
	Radiologists	22		
200 - 399	Pulmonary Specialists	50+	Gastroenterologists	50
Services per patient: 21 or more	Allergists	22		
	Family Practitioners	17		
11 - 20	Allergists	39	Allergists	47
			Pulmonary Specialists	29
	Internists, Pulmonary Specialists	30+		
Gave no hospital care[1/]	Allergists, Psychiatrists, Psychiatry-Neurology	50+	Dermatologists, Radiologists	50+
Gave no office care[1/]	Anesthesiologists	72	Anesthesiologists	75
	Gastroenterologists	11	Neurosurgeons	33
	Thoracic Surgeons	14		

TABLE 12-3 (continued)

A Comparison of Selected Characteristics of Physicians in Queens and Nassau, by Specialty

Characteristic	Percent By Specialty			
	Nassau		Queens	
	Specialty	Percent of Physicians	Specialty	Percent of Physicians
Medicare Revenue $60,000 or more				
	Thoracic Surgeons	64%	Urologists	40+%
	Urologists	49		
			Orthopedists	20+
	Cardiologists		Thoracic Surgeons	
	General Surgeons			
	Ophthalmologists	20+		
	Orthopedists			
	Proctologists			
	Pulmonary Specialists			
Assigned Revenue $20,000 or more				
	Thoracic Surgeons	61	Proctologists	33
			Thoracic Surgeons	10+
Assigned Claims of 70% or more of total				
	Nephrologists		Neurosurgeons	67
	Plastic Surgeons	40+		
	Physical Medicine			
	Thoracic Surgeons			

1/ Excluding a small percent with neither office nor hospital.

Source: GHI Provider Profile Printout PIPGC906 - July 15, 1978
BC/BS-GNY Provider Profile Printout PIPGC835

TABLE 12-4

Comparison of Queens and Nassau Physicians' Assignment Rate and Concentration of Services and Revenue, by Revenue Class and Specialty Type, 1976

a. By Revenue Class

Revenue class	Assigned/Total Revenue		Assigned/Total Claims		Percent of Aggregate Services		Percent of Aggregate Revenue	
	Queens	Nassau	Queens	Nassau	Queens	Nassau	Queens	Nassau
Very low	35.2%	37.4%	51.7%	40.2%	*	*	*	*
Low	25.1	34.4	33.3	33.2	25.5	15.5	20.8	12.7
Medium	24.4	37.4	25.6	34.3	46.6	42.5	43.7	39.9
High	31.2	51.1	29.7	56.1	27.2	41.6	34.9	47.1

b. By Specialty Type

Specialty type								
GP	17.0	38.0	22.8	36.7	32.9	22.4	20.0	13.2
Medical	29.3	46.8	29.4	45.1	47.2	52.4	35.5	36.9
Surgical	28.4	42.7	30.1	41.8	13.8	15.2	32.6	39.5
Other	32.4	39.4	47.3	54.7	5.7	9.2	11.5	9.5

Source: Physician Provider Profile printouts for GHI and BC/BS, 15 July, 1978 PIPGC906 and 3 July, 1978 PIPGC835 respectively.

TABLE 12-5

Comparison of Services per Physician in Queens and Nassau by Specialty Type, 1976

Specialty Type	Queens (1)	Nassau (2)	Nassau/Queens (2/1)
General practitioner	844.4	1,084.6	1.28
Medical	1,469.0	2,104.5	1.43
Surgical	357.4	538.1	1.51
Other	228.3	510.5	2.24

Source: Physician Provider Profile printouts for GHI and BC/BS, 15 July 1978, PIPGC904, and 3 July 1978, PIPGC835, respectively.

TABLE 12-6

Distribution of Queens and Nassau Physicians by Specialty, 1976

Code	Specialty	Queens		Nassau	
		Number	Percent	Number	Percent
	Total	2,335	100.0%	2,684	100.0%
01	General practitioner	640	27.9	532	20.5
11	Internal medicine	447	19.5	514	19.8
02	Surgery	187	8.2	200	7.7
16	Obstetrics-gynecology	180	7.8	176	6.8
18	Ophthalmology	96	4.2	117	4.5
05	Anesthesiology	89	3.9	127	4.9
30	Radiology	84	3.7	90	3.5
26	Psychiatry	77	3.4	152	5.9
20	Orthopedic surgery	60	2.6	98	3.8
37	Pediatrics	-	-	57	2.2
04	Otolaryngology	56	2.4	66	2.5
07	Dermatology	51	2.2	51	2.0
34	Urology	46	2.0	45	1.7
27	Psychiatric neurology	-	-	43	1.7
22	Pathology	33	1.4	42	1.6
08	Family practice	25	1.1	52	2.0
13	Neurology	24	1.0	27	1.0
25	Physical medicine	23	1.0	19	0.7
06	Cardiovascular	22	1.0	31	1.2
33	Thoracic surgery	19	0.8	36	1.4
03	Allergy	15	0.7	18	0.7
39	Nephrology	-	-	11	0.4
29	Pulmonary diseases	7	0.3	13	0.5
10	Gastroenterology	6	0.3	19	0.7
28	Proctology	6	0.3	8	0.3
14	Neurosurgery	3	0.1	21	0.8
24	Plastic surgery	3	0.1	29	1.1
36	Nuclear medicine	1	*	-	-
49	Miscellaneous	94	4.1	-	-
-	Unidentified	41	1.8	90	3.4

* Less than 0.1

Source: Physician Provider Profile printouts for GHI and BC/BS, 15 July 1978, PIPGC904, and 3 July 1978, PIPGC835, respectively.

CHAPTER 13

BENEFICIARY PROFILE

The preceding chapter presented summary profiles of physicians in Queens and Nassau who provided services under Medicare in 1976. Chapter 13 reports on a comparison of the experience under Medicare Part B of about 4,000 enrollees in each county. When service in either county is taken into account, 50.2% of the Queens enrollees and 63.1% of Nassau enrollees used Part B services, out-of-county use being higher for Queens residents. Beneficiaries in the two counties were compared as to number and variety of Medicare physician services received, number and type of doctors seen, and other measures.

Introduction

A comparison of beneficiary experience under Medicare in the territories of two Part B carriers - Blue Cross/Blue Shield of Greater New York and Group Health, Inc. - was carried out by analysis of claims data for Queens and Nassau counties. A sample of enrollees was drawn for each county. The sampling rule was to draw every 36th record from the BEST Alpha file in Nassau (2.78%) and every 64th record in Queens (1.56%) in order to obtain samples of about 4,000 enrollees dwelling in each county (4,095 in Queens and 3,978 in Nassau). To analyze the utilization of medical services, each beneficiary's Health Insurance Claim (HIC) number was matched with medical claims files of the Medicare Part B carrier for the county of residence for calendar year 1976. In addition, Nassau provider claims were searched for utilization by Queens residents and vice versa.

Methodological limitations of the provider analyses noted in the introduction to the micro study (Chapter 10) also apply to analysis of beneficiary utilization and financial experience, since these companion studies are drawn from the same data files. However, certain characteristics of the data sources concern the beneficiary study particularly. The current BEST Alpha file, source of Health Insurance Claim number, sex, age, and basis of eligibility, was matched with the claims history file. Persons who died during the year but used services - indeed, they may have used intensive and expensive services - would not have the chance of inclusion in the study. (Decedents are not missed - although not specifically identified - in the provider profile, since this study uses the whole claims set for a year rather than a sample of current enrollees.) Persons who changed their place of residence

within the year by leaving Queens or Nassau would not be included in beneficiary samples, nor would the event of entering a nursing home, with probable effect on place of service and on service type, be captured.

Absence of data for consecutive years truncates the utilization and expense record for those with illnesses subject to carryover. High use in two successive years, which would be a valuable characteristic for classifying beneficiaries, is not identifiable.

Another important matter is out-of-county travel. The beneficiaries in the sample fall into two categories:

"Users" - beneficiaries with at least one medical claim.

"Non-users" - beneficiaries without medical claims.

Because of data limitations it is not possible to establish whether so-called "non-users" of providers in Queens or Nassau are using services in one of the other boroughs of New York City. It was possible, however, to establish whether Queens residents are using services of physicians in Nassau and vice-versa.

User Rates

Only 46.6% of all beneficiaries in Queens used covered medical services provided by Queens doctors; additionally, 13.0% of beneficiaries living in Queens traveled to Nassau to obtain medical care (Table 13-3). Among Nassau beneficiaries the percent of "domestic" users is relatively higher, 61.2%, while the percent of those who traveled to Queens is lower, 6.1% (Table 13-4). When those in Queens who had no services in Queens but did have claims in Nassau were identified, they amounted to 6.8% of all Queens non-users. For the corresponding category in Nassau, the percent was 4.9%.

If travel between these counties is taken into account, 50.2% of the Queens residents used Part B services, and 63.1% of Nassau residents did so. On this basis, the gap in user rates is reduced. The Queens user rate remains lower than Nassau when each sex is compared separately. The user rate for females in both places is greater than that of males (Tables 13-8, 13-9). Analysis of user rate by zip code suggests more crossing of boundaries by those residing near county lines.

Analysis by age reveals that the percent of beneficiaries who used medical services is smaller for the youngest and oldest age groups. The single year of age 65 is considered separately as the youngest group. The user rate in Queens is only 30.9% at age 65 and rises thereafter, but falls to 46.8% after age 85 is reached. For Nassau, 37.5% of those aged 65 are users; user rate rises with advancing age but the drop after 85 is less marked than in Queens. (There is a little dip at ages 75-79) (Table 13-5). The low user rate at age 65 may be due to learning to use the program; however, various medical care studies showing high use in the first year of new entitlements suggest need for other explanations. One may be that occurrence of the 65th birthday partway through the calendar year 1976 reduces the likelihood of use since, on the average, enrollees reaching 65 during 1976 would be entitled to Part B coverage for only half a year. The beneficiary then has no incentive to file the claim.

In Queens the age group 70-74 accounted for 27% of users and 65-69, for 28%. In Nassau the pattern of concentration was similar, although the persons aged 85 and over made up a larger share of users than in Queens (Table 13-6). The cumulative percents by age are as follows:

Age Group in Years	Queens	Nassau
65	4.5%	3.9%
66-69	28.0	27.5
70-74	54.6	53.5
75-79	76.0	72.4
80-84	91.5	88.4
85 and over	100.0	100.0

There were 312 Queens residents and 176 Nassau residents who were under the state buy-in program (Medicaid) - 7.6% and 4.4% of all beneficiaries respectively. The user rate for buy-ins was 49.0% in Queens and 66.5% in Nassau; in each county this rate is higher than that for all Medicare beneficiaries [1/]. In Queens the user rate for buy-ins went up sharply after age 75 and down sharply after age 85 but in Nassau this later drop did not occur; in fact, there was a rise to 77.1% (Table 13-7).

Based on mean ages, beneficiaries in Nassau are older than those in Queens (74.6 and 73.9 years respectively.) The difference is significant for females but not for males. This pattern is true for ages of users and non-users considered separately, buy-in beneficiaries as a group, and users within the buy-in category. For non-users in the buy-in group, there are no significant differences in age. (Table 1). Median ages in the two counties were slightly lower than the means; Nassau's median of 72 years is one year higher than that for Queens.

Whether the Queens-Nassau age difference contributes to higher user rates in Nassau is not clear: both males and females in Nassau have higher user rates although the age difference is significant for females only.

1/ This is consistent with known associations of ill health with poverty status. Absent a financial barrier, more use compared with non-poor beneficiaries could occur.

TABLE 13-1

Comparison of Mean Ages for Queens and Nassau, 1976

Types of Beneficiaries	Mean Age 1 Queens	Mean Age 2 Nassau	Difference (2-1)	Z $\frac{\bar{X}_N - \bar{X}_Q}{\sigma_D}$
ALL BENEFICIARIES IN THE SAMPLE	73.9	74.6	0.7	4.46*
Male	73.3	73.6	0.3	1.23
Female	74.3	75.3	1.0	4.89*
Users of service	74.6	75.1	0.5	2.38*
Male	73.8	74.0	0.2	0.58
Female	75.0	75.7	0.7	2.59*
Non-users of service	73.3	73.9	0.6	2.53*
Male	72.9	72.9	0	0
Female	73.7	74.6	0.9	2.82*
BENEFICIARIES UNDER BUY-IN STATUS	75.8	77.5	1.7	2.34*
Male	74.8	75.5	0.7	0.43
Female	76.0	77.9	1.9	2.35*
Users of service	76.4	78.5	2.1	2.26*
Male	75.2	77.7	2.5	1.05
Female	76.6	78.7	2.1	2.09*
Non-users of service	75.2	75.5	0.3	0.26*
Male	74.5	72.2	-2.3	-1.17
Female	75.5	76.4	0.9	0.67

* The Z test measures the significance of the difference between the mean ages of Queens and Nassau beneficiaries. All Z values equal to or greater than 1.96 are significant at the 5% level.

Source: Tables 13-8 and 13-9

Analysis of the distribution of beneficiaries by eligibility category shows that those qualifying on their own earnings record make up most of users of Part B services. In Queens 71.3% of user-beneficiaries of both sexes are in this category, in Nassau, 67.6%. In both counties widows form the second largest group: 15.0% in Queens and 19.7% in Nassau are eligible as "widows 65+ - first claimant" (Tables 13-10, 13-11). Eligibility categories of residents of Queens using Nassau providers, and vice-versa, follow the distributions of all beneficiaries within the respective counties (Tables 13-12 and 13-13).

Doctors, Services and Charges

In both counties studied, most patients used fewer than three doctors in 1976; in Queens 69% were in this category but in Nassau only 60% were, (Table 13-14) and more of the Queens users have seen only one doctor - 41.5% as compared to 34.6% of Nassau users. The maximum number of different physicians seen is 13 for Queens and 14 for Nassau. On the average, Queens beneficiaries saw 2.2 different doctors, those in Nassau, 2.6. The difference between the two means is statistically significant. These observed differences may be due to the fact that a Queens beneficiary may use public transportation (to Manhattan) to obtain the services of a specialist not involving a claim processed by GHI, and therefore not represented in the data set available for study of utilization.

In both counties more than half of beneficiaries saw more than one category of doctor, the percent being slightly higher for Nassau (Table 13-15). Usually surgical specialties were used in combination with others. This is the case for 48.1% of Nassau beneficiaries and 33.8% of those in Queens. Of those who used physician services, about 2/5 of enrollees in each county

used any general or family practitioner, but in the majority of cases this practitioner was not the only doctor type consulted. Those persons using only one category used medical specialties, GPs and surgical specialties in that order, in both Queens and Nassau. However, the proportion using medical and surgical specialties as their only category was higher in Nassau.

Use of board-certified MDs as the only care source was found among 11.3% of Queens beneficiaries, and another 37.0% used only non-board doctors. Another 27.4% used both types. For 24.3% of beneficiaries, board certification status of doctors seen was unknown. About 2/5 of Queens beneficiaries had some access to board diplomates in the year. Parallel information was not available for Nassau (Table 13-16).

Comparison of place of service shows some similarities and some differences between Queens and Nassau. In both areas most beneficiaries received service at doctors' offices - 93.3% in Nassau and 88.3% in Queens. About 30% in Nassau and 20% in Queens received physician services in hospitals, and under 10% in both areas received care at home. Eleven percent of Queens beneficiaries but almost none in Nassau received services with independent laboratories as the place of service.[2/] Physician service in extended care facilities was recorded for 7.6% of Queens beneficiaries but only 3.7% of those in Nassau. Outpatient departments were used by only 1% of Queens patients and 5% of Nassau patients (Table 13-17).

Place of service was further classified to show those who used no care in the hospital or no office care separately. About 70% in both counties used no physician inhospital care but did use office care and under 5% used inpatient services but not office services. However, one-fourth of Nassau beneficiaries used both compared to 16% of Queens beneficiaries (Table 13-18).

2/ The proportion of services classified as laboratory services was almost identical in the two areas (Tables Q 13 and N 13).

The percent of patients using only surgical services is almost the same for Queens and Nassau, but more in Nassau used both medical and surgical services (Table 13-24).

Services per person were higher in Nassau: 25.3% of Queens users received between 1 and 3 services per person as compared to 19.8% for Nassau users (Tables 13-19, 13-20)and another 26.5% received between 4 and 8 services as compared to 22.1% for Nassau. However, more Nassau users received 45 or more services per person. Nassau users averaged 21.1 services per person compared to 13.5 in Queens. The difference between the means is statistically significant. The number of services per person ranged up to 214 in Queens and up to 362 in Nassau. Cumulative percents of aggregate services used are as follows:

Services Per Patient	Queens	Nassau
1-3	3.5%	1.7%
4-8	14.9	7.9
9-17	37.7	20.8
18-31	61.0	39.2
32-44	74.3	50.4
45+	100.0	100.0

This information is relevant to consideration of reimbursement methods that are not based on unit pricing of services, since the distributions show that substantial numbers of services are consumed by high users. However, they also show that there is inter-areal variation in the high users' share.

Among users in Nassau, 46.2% had received services for which the aggregate submitted charges per beneficiary are under $200. The figure for Queens is 58.2% (Tables 13-21,13-22). The mean submitted charges per beneficiary were $289.73 in Nassau and $220.24 in Queens - a difference of 31.5% (Tables

13-25 and 13-26). Analysis of submitted charges by type of service is reported below.

Assignment by Type of Procedure and Size of Charge

The distribution of aged beneficiaries using services by percent of claims assigned is notable in that the majority can be found at the two extreme points of the distribution - no assignment accepted at all, or assignment for 90% of claims and over (Table 13-23). Queens beneficiaries were slightly less likely to have assigned claims: in all, 63.4% of Queens beneficiaries and 59.5% of Nassau beneficiaries had no assigned claims. At the other extreme, 17.4% of beneficiaries in Queens and 16.9% in Nassau had 90% or more of claims assigned. Statistics in Chapter 7 on Carrier Performance showed that Queens had a rate of assignment lower than that of all Southern New York administered by BC/BS-GNY; however, no separate figures on Nassau were available.

The acceptance of assignment by Nassau physicians for each service type as compared to Queens can be summarized as follows:

Service Type	Assigned Services as Percent of Total Services			Assigned Submitted Charges as Percent of Total Submitted Charges		
	Queens (1)	Nassau (2)	Difference (2-1)	Queens (3)	Nassau (4)	Difference (4-3)
Medical	47.8%	42.7%	-5.1%	35.0%	45.0%	10.0%
Surgical	25.8	30.6	4.8	42.7	36.1	-6.6
Radiology	33.3	31.1	-2.2	38.7	30.0	-8.7
Laboratory	22.5	35.2	12.7	25.3	37.1	11.8

Great diversity by service type exists. For laboratory services the rate of assignment was higher in Nassau for both claims and submitted charges, and for radiology it was lower in Nassau on both these bases. For surgery, assignment was more frequent in Nassau in terms of claims but submitted charges showed the opposite. Medical services had a lower rate of assigned claims in Nassau but assigned bills were a larger share of submitted charges there.

It should be kept in mind that type of service is not synonymous with specialty type: internists or GPs can perform laboratory or X-ray services, and office procedures classed as surgery can be done by these physicians without encountering hospital restrictions based on surgical credentials. Frequently these actions are legitimate extensions of more typical tasks of the specialties, and are performed for patient convenience and comfort and to permit completion of diagnosis and treatment that is primarily medical rather than surgical. Similarly, surgeons can provide office visits that are not classed as pre- or after-care (and thus are exempt from "procedure parameters" used in authorizing payment) because no surgery eventuated although it may have been considered. Additionally, specialties classed as surgical (such as ophthalmology) are not restricted to surgical approaches in their regular practice. Assignment rate by specialty type is reviewed in Chapter 12 of this report, Provider Profile.

It has been argued in studies of carrier performance that among the most important factors that may influence the acceptance of assignment are the patient's ability to pay and the size of the bill. A closer analysis by size of bill within type of procedure or service thwarts generalization because the response to size of bill varies as to both gradient and direction for different classes of procedure, as well as differing between carriers (Tables 13-27 - 13-34).

Medical: Most claims received by GHI (61.1% during 1976) fall into two classes of submitted charges: $15-$19 (30.5%) and $20-$24 (30.6%). Charges above $30 are relatively rare. The assignment rate for the first

group was 29.3%; for the second, 37.7%. As charge level increases, the percentage of claims for which doctors accepted assignment increases also. (The highest figure is 66.7% for services between $100 and $200, but there are very few claims at this level.)

The highest share of claims by Nassau doctors falls in the group of $20-$24 submitted charges and assignment was accepted for 51.8% of these. Nassau physicians also had more claims than their Queens colleagues for expensive procedures and accepted assignment more commonly. The assignment rate was around 55% for services priced from $40 to $74.

Surgical: Of claims submitted to GHI 36% had relatively low charges ($10-$19 and $20-$29). For those claims the assignment rates were 20.4% and 26.5% respectively. The assignment rate rises sharply for bills of $1,000 and over. This jump did not occur in Nassau. Doctors in Nassau county performed more services at $20-$29 (32.6%) and $30-$39 (27.9%), and accepted assignment in a higher proportion of them, than doctors in Queens. In general, for all charge levels, Nassau doctors accepted assignment more often than Queens doctors, the highest percentages being for bills of $200-$299 (75.0% as compared to 43.8%) and $300-$399 (80.0% as compared to 12.5%). The proportion of claims submitted at these charge levels is similar in Nassau.

Radiology: The price bracket $20-$29 accounted for 46.6% of all claims received by GHI from Queens physicians. Nassau physicians had an even larger proportion of claims (55.2%) in this class. Assignment was accepted more frequently by Nassau doctors (30.3% as compared to 19.6%). They had a higher percent of both claims and submitted charges at the more expensive level of $75-$99 but accepted assignment slightly less often than Queens doctors. The latter did not accept assignment at all for services of $100-$199 while Nassau providers accepted it for 11.1% of claims at this level.

Laboratory: The majority of claims are under $10 (64.6% in Queens and 59.6% in Nassau). For this charge level the assignment rate was higher for Nassau doctors by over 12 percentage points. For all other classes of charges, Nassau had a higher assignment rate - except for the more expensive procedures over $40.

Tables Q13 and N13 allow comparison of distributions of assigned, unassigned, and total services and submitted charges in Queens and Nassau, focusing on the relative shares of major types of service in the respective aggregates. Assigned submitted charges differ in that in Nassau the share of medical services in the aggregate charges is 8.5 percentage points higher than in Queens and the share of surgical services is correspondingly less.

When services of each type are placed on a denominator of active beneficiaries (those who filed at least one claim in the year but not necessarily for that category of service), figures for Nassau beneficiaries are larger, particularly for surgical services. When charges for each type of service are placed on a per service basis, Nassau figures are larger for medical and laboratory services, but smaller for radiology and dramatically so for surgery. This is consistent with Tables Q5b and N5b showing in Queens a concentration of submitted charges of $1,000 or more as a share of aggregate charges (40%) that is not found in Nassau, where charges of $20-$40 make up over 60% of claims. While this could reflect entirely different surgical procedures, it could also come from different code descriptions of similar work. Parameters for acceptable duration of aftercare for leading surgical procedures are basically similar in the two areas, so it is unlikely that Nassau doctors are billing separately for services included by their Queens colleagues in after-care.

Procedure Mix

Procedure variety per patient was greater in Nassau, where 5% of patients received more than 15 procedures, the maximum being 40. The proportion of patients with only one procedure was 19% in Nassau in comparison to 28% in Queens (Table 13-35).

Table 13-2 ranks 11 procedures with highest rates in Queens according to the proportion of beneficiaries in Queens and Nassau using each. It shows follow-up office visit and electrocardiogram as involving the most beneficiaries in both counties. Urinalysis is third in rank in Queens but only 12th in Nassau. Day home visits have 7th position in Queens but only 11th in Nassau; the difference in ranks for sedimentation rate is also 4 steps (11th in Queens and 15th in Nassau). Nassau had higher ranks on user rate for initial hospital visits, complete blood counts, and blood glucose tests. For almost every procedure in the eleven, Queens beneficiaries are more likely to have used it only once; the exceptions are follow-up hospital visit and blood glucose. However, the percents with a single use are in the same order of magnitude in the two counties: only for urinalysis is there more than a ten percentage point difference (63% having one test in Queens and 51% in Nassau). Except for urinalysis, diagnostic procedures, including laboratory tests, chest X-ray, and proctosigmoidoscopy, were of similar importance as indicated by ranked user rates.

The user rates in Queens and Nassau for 44 leading Medicare procedures are shown in Table 13-36. Also shown are the proportion of users with only one instance of use of the procedure during the year, and, for those with more than one instance, the median interval between services.

TABLE 13-2

Comparison of Ranks of User Rates for 11 Procedures with Highest Use in Queens and Percent of Users with Only One Use of Service

BHI Code	Procedure	Rank Based on Number of Beneficiaries Using Procedure		Percent of User-Beneficiaries Who Used Service Only Once	
		Queens	Nassau	Queens	Nassau
4	Follow-up office visit	1	1	19.1%	17.8%
49	E.K.G.	2	2	68.8	63.3
48	Urinalysis	3	12	63.0	51.1
8	Follow-up hospital visit	4	3	3.5	4.9
31	Radiology-chest	5	4	80.1	77.3
2	Office visit-comprehensive	6	8	89.0	92.8
5	Day home visit, initial or subsequent	7	11	50.6	44.6
7	Routine initial hospital visit	8	5	80.6	72.2
40	Complete blood count	9.5	7	71.3	63.9
45	Blood glucose	9.5	6	50.4	57.9
44	Sedimentation rate	11	15	80.5	72.9

Intensity of Utilization

Three office visit procedures are distinguished for reimbursement purposes, two of which refer to visits by a new patient and the third to visits by an established patient. About four-fifths of both Queens and Nassau beneficiaries with claims in 1976 used follow-up office visit-routine. The percents using initial office visits and office visits-comprehensive are smaller. This suggests that most beneficiaries using service consulted physicians for illnesses that started before 1976. However, the inference must be qualified because of how different doctors interpret illness in a patient already under care, use of emergency rooms for first visits, and other factors.

Queens patients tended to return for follow-up office visits at shorter intervals than Nassau patients, as shown by the following table.

Interval Between Follow-Up Office Visits,
Queens and Nassau

	Queens		Nassau	
Interval	Percent	Cumulative Percent	Percent	Cumulative Percent
Services received only once	19.1	19.1	17.8	17.8
1-50 days	58.0	77.1	39.5	57.3
51-100	19.8	96.9	27.9	85.2
101-150	2.9	99.8	9.0	94.2
151-200	.2	100.0	3.1	97.3
201-300	-	-	2.1	99.4
Over 300 days	-	-	.6	100.0

Although the percent of beneficiaries with just one visit is slightly higher in Queens, the median interval for those with more than one visit was 35 days as compared to 52 for Nassau. The reverse can be observed for comprehensive office visit, for which the median interval was 68 days in Queens as compared to only 23 in Nassau.

The proportion of beneficiaries hospitalized, as indicated by claims for in-hospital services, was 25.2 for Nassau compared to 15.9% for Queens (Table 13-18). Nassau beneficiaries used more routine initial hospital visits as well as follow-up hospital visits. A higher percent of Nassau beneficiaries had more than one routine initial hospital visit but the interval between them was longer - 51 days as compared to 33 for Queens. Follow-up hospital visits are received more than once in over 95% of users in both counties. Daily visits were received by 77.8% of Queens beneficiaries with follow-up hospital visits and 62.1% of their counterparts in Nassau.

Among procedures classified as surgical, proctosigmoidoscopy has the highest user rate for both counties. Both the user rate as well as the percent with more than one examination were higher for Nassau. In general, intervals could not be compared for surgical procedures because some of them by their nature cannot be performed more than once, while others have a very small number of cases.

Except for chest examinations almost all radiological procedures were performed only once. The proportion of beneficiaries with two or more chest x-rays was higher in Nassau, but the interval between examinations was shorter in Queens; 36 days for Queens and 93 for Nassau.

Compared to other procedure types, laboratory tests were more likely to be repeated during the year. The highest percents of those with repetition were found in Queens for prothrombin time test (72.2%) and blood glucose (49.6%) and in Nassau for urinalysis (48.9%). For other laboratory procedures, the percent of beneficiaries with two or more instances of a test varies from 15% to 37% in Queens and 10% to 43.7% in Nassau. Queens providers ordered repetitions at shorter intervals than did Nassau providers. The median interval for urinalysis was 56 days as compared to 88 in Nassau, for blood glucose 40 days compared to

74, and for complete blood count 41 days compared to 88.

It appears that patients using Queens providers have shorter intervals between services for a variety of procedures.

Summary

To summarize, 63% of Nassau residents under Medicare but only 50% of Queens residents used Part B services, a difference believed to be partly explainable by Queens beneficiaries' travel to Manhattan. Females were slightly more likely to be service users than males. Low user rates in the first year of entitlement are recorded. The user rate is higher for Medicaid buy-ins than for other beneficiaries but a drop in the buy-in user rate after age 85 is found only in Queens.

Nassau users tended to see more doctors and to receive more services per person. In fact, users of 45 or more services accounted for half of all utilization. As expected, aggregate submitted charges per beneficiary were higher in Nassau. About 3/5 of beneficiaries in both counties had no assigned claims. Substantial variation in assignment rates among four main types of services occurred and the response of assignment decisions to size of bill did not follow a general rule. Nassau surgery was notable for a high volume of relatively inexpensive procedures, for which assignment was more likely than for similarly priced services in Queens.

Those Queens beneficiaries that use Queens providers seem to have more intensive utilization of services than their counterparts in Nassau; the interval between services tends to be shorter in Queens.

These statistics, based on claims for samples of Medicare beneficiaries, show variations in user rates by sex, age, eligibility status, and Medicaid entitlement. They also show inter-county differences in the charge levels and assignment

practices among doctors performing the same category of service, and in intensity of use of services.

TABLE 13-3

Queens Medicare Beneficiaries' Use of Queens and Nassau Providers in 1976 - Total and Buy-ins

Sex and Buy-in Status	All Beneficiaries Number	All Beneficiaries Percent (1/1)	With GHI Claims Number	With GHI Claims Percent (3/1)	Without GHI Claims Number	Without GHI Claims Percent (5/1)	With BC/BS Claims Number	With BC/BS Claims Percent (7/1)
	1	2	3	4	5	6	7	8
Total (I and II)								
Both sexes	4,095	100.0%	1,908	46.6%	2,187	53.4%	533	13.0%
Male	1,622	100.0	682	42.0	940	58.0	196	12.1
Female	2,473	100.0	1,226	49.6	1,247	50.4	337	13.7
I. Not buy-ins								
Both sexes	3,783	100.0	1,755	46.4	2,028	53.6	487	12.9
Male	1,558	100.0	656	42.1	902	57.9	187	12.0
Female	2,225	100.0	1,099	49.3	1,126	50.6	298	13.4
II. Buy-in status								
Both sexes	312	100.0	153	49.0	159	51.0	48	15.4
Male	64	100.0	26	40.6	38	59.4	9	14.1
Female	248	100.0	127	51.2	121	48.8	39	15.7

Source: GHI Beneficiary Profile Printouts 8 July 1978 and 15 July 1978, PIPGC859,866 and 908.
10 August 1978/NP.

TABLE 13-4

Nassau Medicare Beneficiaries' Use of Nassau and Queens Providers in 1976 - Total and Buy-ins

Sex and Buy-in Status	All Beneficiaries Number	All Beneficiaries Percent (1/1)	With BC/BS Claims Number	With BC/BS Claims Percent (3/1)	Without BC/BS Claims Number	Without BC/BS Claims Percent (5/1)	With GHI Claims Number	With GHI Claims Percent (7/1)
	1	2	3	4	5	6	7	8
Total (I and II)								
Both sexes	3,978	100.0%	2,435	61.2%	1,543	38.8%	242	6.1
Male	1,563	100.0	915	58.5	648	41.5	103	6.6
Female	2,415	100.0	1,520	62.9	895	37.9	139	5.8
I. Not buy-ins								
Both sexes	3,802	100.0	2,318	61.0	1,484	39.0	234	6.2
Male	1,531	100.0	896	58.5	635	41.5	100	6.5
Female	2,271	100.0	1,422	62.6	849	37.4	134	5.9
II. Buy-in status								
Both sexes	176	100.0	117	66.5	59	33.5	8	4.5
Male	32	100.0	19	59.4	13	40.6	3	9.4
Female	144	100.0	98	68.1	46	31.9	5	3.5

Source: BC/BS Beneficiary Profile Printouts, 8 July 1978 and 15 July 1978, PIPGC859, 866 and 908.
10 August 1978/NP.

TABLE 13-5

Users of Covered Services in 1976 As Percent of All Beneficiaries in Queens and Nassau by Sex and Age

Users as Percent of All Beneficiaries in Age-Sex Group

Age in years	Queens			Nassau		
	Both sexes	Male	Female	Both sexes	Male	Female
All ages	46.6%	42.0%	49.6%	61.2%	58.5%	62.9%
65	30.9	29.0	32.5	37.5	31.5	43.5
66-69	41.9	39.3	43.9	58.7	59.1	58.3
70-74	46.8	44.5	48.4	64.5	60.8	66.9
75-79	52.6	44.8	57.0	63.7	62.8	64.2
80-84	54.5	48.9	57.5	65.1	62.9	66.2
85+	46.8	39.3	50.9	63.6	60.5	65.1
Total number of beneficiaries in the sample	4,095	1,622	2,473	3,978	1,563	2,415
With medical records	1,908	682	1,226	2,435	915	1,520

Source: Beneficiary Profile Printouts for GHI and BC/BS July 8, 1978 PIPGC860 and PIPGC859 respectively.

TABLE 13-6

Age Distribution of Users and Non-Users of Covered Services in Queens and Nassau 1976

	Number of Beneficiaries			
	Queens		Nassau	
Age in Years	As Percent of All Users	As Percent of Non-users	As Percent of All Users	As Percent of Non-users
65	4.5%	8.7%	3.9%	10.2%
66-69	23.5	28.3	23.6	26.2
70-74	25.6	26.4	26.0	22.6
75-79	21.4	16.9	18.9	16.9
80-84	15.5	11.3	16.0	13.5
85+	8.5	8.4	11.6	10.6
All ages	100.0	100.0	100.0	100.0
N	1,908	2,187	2,435	1,453

Source: Beneficiary Profile Printouts for GHI and BC/BS July 8, 1978 PIPGC860 and PIPGC859 respectively.

TABLE 13-7

Users of Covered Services in 1976 As Percent of All Beneficiaries in State Buy-In Status in Queens and Nassau by Sex and Age

	Users as Percent of All "Buy-ins" in Age-Sex Group					
	Queens			Nassau		
Age in Years	Total	Male	Female	Total	Male	Female
Total	49.0%	40.6%	51.2%	66.5%	59.4%	68.1%
65-74	43.1	36.8	45.0	55.9	47.1	58.8
75-84	62.1	47.1	65.7	71.2	70.0	71.4
85+	46.4	44.4	46.8	77.1	80.0	76.7
Total beneficiaries in the sample under state buy-in	312	64	248	176	32	144
With medical records	153	26	127	117	19	98

Source: Beneficiary Profile Printouts for GHI and BC/BS July 8, 1978, PIPGC860 and PIPGC859 respectively.

TABLE 13-8

Mean Ages for Queens Users and Non-Users of Queens Services, All Beneficiaries and Buy-Ins by Sex, 1976

Types of Beneficiaries		Mean Age	Standard Deviation	Minimum Value	Maximum Value	Coefficient of Variation $\sigma/\bar{x}$
ALL BENEFICIARIES IN THE SAMPLE	4,095	73.9	6.9	65	99	9.3
Male	1,622	73.3	6.7	65	96	9.1
Female	2,473	74.3	7.0	65	99	9.4
Users of Queens services	1,908	74.6	6.8	65	97	9.1
Male	682	73.8	6.6	65	96	8.9
Female	1,226	75.0	6.9	65	97	9.1
Non-users of Queens services	2,187	73.3	6.9	65	99	9.4
Male	940	72.9	6.7	65	94	9.2
Female	1,247	73.7	7.0	65	99	9.5
BENEFICIARIES UNDER BUY-IN STATUS	312	75.8	8.1	65	99	10.7
Male	64	74.8	8.0	65	91	10.7
Female	248	76.0	8.2	65	99	10.7
Users of Queens services	153	76.4	7.8	65	96	10.2
Male	26	75.2	8.6	65	90	11.5
Female	127	76.6	7.6	65	96	9.9

TABLE 13-8 (continued)

Mean Ages for Queens Users and Non-Users of Queens Services, All Beneficiaries and Buy-Ins by Sex, 1976

Types of Beneficiaries		Mean Age	Standard Deviation	Minimum Value	Maximum Value	Coefficient of Variation $\sigma/\bar{x}$
Non-users of Queens services	159	75.2	8.4	65	99	11.2
Male	38	74.5	7.7	65	91	10.3
Female	121	75.5	8.7	65	99	11.5

Source: GHI Beneficiary Profile Printout, 8 July 1978, PIPGC 860.

TABLE 13-9

Mean Ages for Nassau Users and Non-Users of Nassau Services, All Beneficiaries and Buy-Ins by Sex, 1976

Types of Beneficiaries	Number in Sample	Mean Age	Standard Deviation	Minimum Value	Maximum Value	Coefficient of Variation $\sigma/\bar{x}$
ALL BENEFICIARIES IN THE SAMPLE	3,978	74.6	7.2	65	100	9.7
Male	1,563	73.6	7.0	65	100	9.6
Female	2,415	75.3	7.3	65	100	9.7
Users of Nassau services	2,435	75.1	7.1	65	100	9.5
Male	915	74.0	7.0	65	100	9.4
Female	1,520	75.7	7.2	65	99	9.5
Non-users of Nassau services	1,543	73.9	7.3	65	100	9.9
Male	648	72.9	7.1	65	94	9.7
Female	895	74.6	7.5	65	100	10.0
BENEFICIARIES UNDER BUY-IN STATUS	176	77.5	7.5	65	97	9.6
Male	32	75.5	7.3	66	92	9.7
Female	144	77.9	7.4	65	97	9.5
Users of Nassau services	117	78.5	7.4	65	97	9.4
Male	19	77.7	7.4	68	92	10.0
Female	98	78.7	7.4	65	97	9.4

TABLE 13-9 (continued)

Mean Ages for Nassau Users and Non-Users of Nassau Services, All Beneficiaries and Buy-Ins by Sex, 1976

Types of Beneficiaries	Number in Sample	Mean Age	Standard Deviation	Minimum Value	Maximum Value	Coefficient of Variation $\sigma/\bar{x}$
Non-users of Nassau services	59	75.5	7.2	65	93	9.5
Male	13	72.2	5.5	66	85	7.6
Female	46	76.4	7.4	65	93	9.6

Source: GHI Beneficiary Profile Printout, 8 July 1978, PIPGC 859.

TABLE 13-10

Distribution of Queens Beneficiaries by Eligibility Category As Shown by HIC Number Suffix, Users and Non-users of Covered Services in 1976

Suffix	Eligibility Category	Beneficiaries Using Services in Queens Number	Beneficiaries Using Services in Queens Percent	Beneficiaries not Using Services in Queens Number	Beneficiaries not Using Services in Queens Percent
A	Wage earner 65+	1,362	71.3%	1,553	71.7%
B	Wife 65+	164	8.6	136	6.3
B1	Husband 65+	3	0.2	2	0.1
B2	Wife under 65 with a child in care	-	-	2	0.1
B3	Wife 65+ second claimant	2	0.1	-	-
B6	Divorced wife - first claimant	1	0.1	1	*
C1	Youngest child	-	-	2	0.1
D	Widow 65+ first claimant	286	15.0	277	12.8
D4	Widow remarried after age 60	-	-	1	*
D6	Surviving divorced wife - first claimant	1	0.1	1	*
F2	Mother	-	-	1	*
J1	Primary age 72 entitled to Part A less than 3 quarters of coverage	35	1.8	33	1.6
J2	Primary age 72 entitled to Part A at least 3 quarters of coverage	2	0.1	2	0.1
J3	Primary age 72 not entitled to Part A less than 3 quarters of coverage	-	-	1	*
M	Entitled to Part B only	24	1.2	61	2.9
M1	Elected to file for Part B only	-	-	1	*

TABLE 13-10 (cont.)

Distribution of Queens Beneficiaries by Eligibility Category As Shown by HIC Number Suffix, Users and Non-users of Covered Services in 1976

Suffix	Eligibility Category	Beneficiaries Using Services in Queens Number	Beneficiaries Using Services in Queens Percent	Beneficiaries not Using Services in Queens Number	Beneficiaries not Using Services in Queens Percent
T	Not entitled to any monthly benefit (SS or RR); CRD under age 65	27	1.4%	50	2.3%
Others[a]		1	0.1	42	2.0
Total beneficiaries		1,908	100.0	2,166[b]	100.0

*Less than 0.1%

[a]Other categories of eligibility.

[b]21 beneficiaries are excluded from the total because their category of eligibility is unknown.

Source: GHI Beneficiary Profile Printout, PIPGC860, 8 July 1978.

TABLE 13-11

Distribution of Nassau Beneficiaries by Eligibility Category As Shown by HIC Number Suffix, Users and Non-users of Covered Services in 1976

Suffix	Eligibility Category	Beneficiaries Using Services in Nassau Number	Beneficiaries Using Services in Nassau Percent	Beneficiaries Not Using Services in Nassau Number	Beneficiaries Not Using Services in Nassau Percent
A	Wage earner 65+	1,646	67.6%	1,044	68.6%
B	Wife 65+	203	8.4	118	7.8
B1	Husband 65+	-	-	1	0.1
B2	Wife under 65 with a child in care	2	0.1	-	-
B3	Wife 65+ second claimant	-	-	1	0.1
B6	Divorced wife - first claimant	2	0.1	-	-
D	Widow 65+ first claimant	480	19.7	256	16.8
D2	Widow 65+ second claimant	2	0.1	-	-
D4	Widow remarried after age 60	3	0.1	-	-
D6	Surviving divorced wife - first claimant	1	*	2	0.1
D7	Surviving divorced wife - second claimant	-	-	2	0.1
F2	Mother	3	0.1	6	0.4
J1	Primary age 72 entitled to Part A less than 3 quarters of coverage	39	1.6	28	1.8
J2	Primary age 72 entitled to Part A at least 3 quarters of coverage	1	*	1	0.1
M	Entitled to Part B only	22	0.9	14	0.9
T	Not entitled to any monthly benefit SS or RR CRD under age 65	31	1.3	21	1.4

TABLE 13-11 (cont.)

Distribution of Nassau Beneficiaries by Eligibility Category As Shown by HIC Number Suffix, Users and Non-users of Covered Services in 1976

Suffix	Eligibility Category	Beneficiaries Using Services in Nassau Number	Beneficiaries Using Services in Nassau Percent	Beneficiaries not Using Services in Nassau Number	Beneficiaries not Using Services in Nassau Percent
Others[a]		-	-	28	1.8%
Total beneficiaries		2,435	100.0%	1,522[b]	100.0

*Less than 0.1%

[a]Other categories of eligibility.

[b]21 beneficiaries are excluded from the total because their category of eligibility is unknown.

Source: BC/BS Beneficiary Profile Printout, 8 July 1978, PIPGC859.

TABLE 13-12

Distribution of Queens Beneficiaries Using Nassau Services by Eligibility Category As Shown by HIC Number Suffix in 1976

Suffix	Eligibility Category	Queens Beneficiaries Using Services in Nassau Number	Percent
A	Wage earner 65+	374	70.2%
B	Wife 65+	42	7.9
B1	Husband 65+	1	0.2
D	Widow 65+ - first claimant	90	16.9
J1	Primary age 72 entitled to Part A less than 3 quarters of coverage	13	2.4
M	Entitled to Part B only	5	0.9
T	Not entitled to any monthly benefit SS or RR; CRD under age 65	8	1.5
Total Queens beneficiaries using Nassau services		533	100.0

Source: BC/BS Beneficiary Profile Printout, 8 July 1978, PIPGC866.

TABLE 13-13

Distribution of Nassau Beneficiaries Using Queens Services by Eligibility Category As Shown by HIC Number Suffix in 1976

Suffix	Eligibility Category	Nassau Beneficiaries Using Services in Queens Number	Percent
A	Wage earner 65+	166	68.6%
B	Wife 65+	25	10.3
D	Widow 65+ - first claimant	42	17.4
F2	Mother	1	0.4
J1	Primary age 72 entitled to Part A less than 3 quarters of coverage	5	2.1
T	Not entitled to any monthly benefit SS or RR; CRD under age 65	3	1.2
Total Nassau beneficiaries using services in Queens		242	100.0

Source: BC/BS Beneficiary Profile Printout, 8 July 1978, PIPGC867.

TABLE 13-14

Distribution of Beneficiaries in Queens and Nassau Using Services by Number of Different Doctors Seen

	Beneficiaries			
	Queens		Nassau	
Number of doctors seen	Number	Percent	Number	Percent
1 only	789	41.5%	842	34.6%
2	528	27.8	627	25.7
3	284	14.9	408	16.8
4	124	6.5	239	9.8
5	102	5.4	143	5.9
6	43	2.2	66	2.7
7	14	0.7	45	1.8
8	10	0.5	34	1.4
9	3	0.2	9	0.4
10	1	0.1	13	0.5
More than 10	4	0.2	9	0.4
All beneficiaries using services	1,902	100.0	2,435	100.0

	Queens	Nassau
Mean	2.2	2.6
Standard deviation	1.5	1.8
Minimum value	1	1
Maximum value	13	14

Source: Beneficiary Profile Printouts for GHI and BC/BS, July 19, 1978, PIPGC957, and PIPGC974 respectively.

TABLE 13-15

Distribution of Beneficiaries in Queens and Nassau Using Services by Specialty Type of Doctors Seen in 1976

	Beneficiaries			
	Queens		Nassau	
Specialty Type	Number	Percent	Number	Percent
One category only	876	46.1%	1006	41.3%
1. General or family practitioner	259	13.6	267	11.0
2. Medical specialties	283	14.9	449	18.4
3. Surgical specialties	169	8.9	242	9.9
4. Other specialties	36	1.9	43	1.8
5. Unknown	129	6.8	5	.2
More than one category	1026	53.9%	1429	58.7%
1. Combinations including surgical specialties	644	33.8	1170	48.1
2. Other combinations	382	20.1	259	10.6
Total beneficiaries using services	1902	100.0%	2435	100.1
Using any general or family practitioner	766	40.3	939	38.6

Source: Beneficiary Profile Printouts for GHI and BC/BS, July 19, 1978 PIPGC957 and August 17, 1978 PIPGC996 respectively.

TABLE 13-16

Distribution of Queens Beneficiaries Using Services by Board Certification Status of Doctors Seen

Board Status of Doctor(s) Seen	Beneficiaries Number	Percent
Board certified only	214	11.3%
Non-board certified only	704	37.0
All combinations including (Board & non-board & unknown)	521	27.4
Unknown only	463	24.3
Total beneficiaries using services	1,902	100.0
Known to use board doctors	795	41.8
Known to use non-board doctors	1,471	77.3

Source: GHI Beneficiary Profile printout, July 19, 1978, PIPGC957

TABLE 13-17

Distribution of Beneficiaries in Queens and Nassau Using Services by Place of Service in 1976

	Beneficiaries			
	Queens		Nassau	
Place of Service	Number*	Percent	Number*	Percent
1. Office	1678	61.3%	2271	63.6%
2. Home	184	6.7	202	5.7
3. Inpatient hospital	389	14.2	718	20.1
4. Extended care facility	145	5.3	91	2.6
5. Outpatient hospital	25	.9	121	3.4
6. Independent laboratory	205	7.5	8	.2
7. Other	112	4.1	16	.4
8. Nursing home	–	–	143	4.0

	Rate per 100 Beneficiaries	
	Queens	Nassau
1. Office	88.3%	93.3%
2. Home	9.7	8.3
3. Inpatient hospital	20.5	29.5
4. Extended care facility	7.6	3.7
5. Outpatient hospital	1.3	5.0
6. Independent laboratory	10.8	.3
7. Other	5.9	.6
8. Nursing home	–	5.9

Queens N = 1902
Nassau N = 2435

* More than one place may be recorded for a beneficiary.

Source: Beneficiary Profile Printouts for GHI and BC/BS, July 19, 1978 PIPGC946 and August 19, 1978 PIPGC999, respectively.

TABLE 13-18

Distribution of Beneficiaries in Queens and Nassau by Use of Office vs. In-Hospital

	Beneficiaries			
	Queens		Nassau	
Place of Service [a/]	Number	Percent	Number	Percent
1. Office (but not hospital)	1375	72.3%	1658	68.1%
2. Inpatient-hospital (but not office)	86	4.5	105	4.3
3. Both	303	15.9	613	25.2
4. Neither office nor inpatient-hospital	138	7.3	59	2.4
All beneficiaries using services	1902	100.0	2435	100.0

a/ Beneficiaries in number 1 may have received care at home, ECF, etc., as well as at offices, but not in hospital; beneficiaries in number 2 may have received care at home, ECF, etc., as well as in hospital, but not at offices.

Source: Beneficiary Profile Printoutsfor GHI and BC/BS, July 19, 1978, PIPGC946 and August 19, 1978 PIPGC999 respectively.

TABLE 13-19

Distribution of Queens Beneficiaries Using Services by Number of Services Received and Aggregate Services Accounted for by Persons in Each Category

Number of services per person	Beneficiaries		Aggregate Services	
	Number	Percent	Number	Percent
1-3	481	25.3%	906	3.5%
4-8	501	26.4	2,941	11.4
9-17	472	24.8	5,856	22.8
18-31	257	13.5	6,004	23.3
32-44	92	4.8	3,418	13.3
45+	99	5.2	6,595	25.7
TOTAL	1,902	100.0	25,720	100.0

Mean 13.5

Minimum Value 1

Maximum Value 214

Source: GHI Beneficiary Profile Printout, July 19, 1978, PIPGC969

TABLE 13-20

Distribution of Nassau Beneficiaries Using Services by Number of Services Received and Aggregate Services Accounted for by Persons in Each Category

Number of Services Per Person	Beneficiaries		Aggregate Services	
	Number	Percent	Number	Percent
1-3	481	19.8%	870	1.7
4-8	541	22.1	3,198	6.2
9-17	528	21.7	6,653	12.9
18-31	406	16.7	9,436	18.4
32-44	153	6.3	5,761	11.2
45+	326	13.4	25,495	49.6
TOTAL	2,435	100.0	51,413	100.0

Mean	21.1
Minimum value	1
Maximum value	362

Source: BC/BS Beneficiary Profile Printout, July 19, 1978, PIPGC974.

TABLE 13-21

Distribution of Aged Beneficiaries in Queens and Nassau by Submitted Charges per Beneficiary *

Submitted Charges per Beneficiary	Beneficiaries			
	Queens		Nassau	
	Number	Percent	Number	Percent
Under $25	118	6.2%	105	4.3%
$25-49	214	11.2	224	9.2
50-74	157	8.2	135	5.5
75-99	188	9.9	172	7.1
100-199	432	22.7	489	20.1
200-299	224	11.8	307	12.6
300-399	144	7.6	193	7.9
400-499	89	4.7	120	4.9
500-599	62	3.2	104	4.3
600-699	40	2.1	86	3.5
700-799	34	1.8	61	2.5
800-899	26	1.4	48	2.0
900-999	21	1.1	39	1.6
1,000-1,999	101	5.3	218	9.0
2,000-2,999	38	2.0	71	2.9
3,000-3,999	8	0.4	36	1.5
4,000-4,999	3	0.2	12	0.5
5,000-5,999	2	0.1	7	0.3
6,000+	1	0.1	8	0.3
Total	1,902	100.0	2,435	100.0

* For 50 selected procedures

Source: Beneficiary Profile Printouts for GHI and BC/BS July 19, 1978, PIPGC969 and PIPGC974 respectively.

TABLE 13-22

Distribution of Aggregate Submitted Charges by Level of Submitted Charges per Beneficiary in Queens and Nassau *

Submitted Charges per Beneficiary	Submitted Charges: Queens Number	Queens Percent	Queens Cumulative Percent	Nassau Number	Nassau Percent	Nassau Cumulative Percent
Under $25	$1,917	0.3	0.3%	$1,840	0.1%	0.1%
$25-49	7,687	1.2	1.5	7,714	0.6	0.7
50-74	9,426	1.4	2.9	8,107	0.6	1.3
75-99	16,061	2.5	5.4	14,544	1.1	2.4
100-199	61,733	9.4	14.8	70,919	5.5	7.9
200-299	54,869	8.4	23.2	74,513	5.7	13.6
300-399	49,686	7.6	30.8	66,783	5.2	18.8
400-499	39,466	6.0	36.8	53,177	4.1	22.9
500-599	33,907	5.2	42.0	56,818	4.4	27.3
600-699	25,966	3.9	45.9	55,150	4.3	31.6
700-799	25,181	3.8	49.7	45,561	3.5	35.1
800-899	22,006	3.4	53.1	40,554	3.1	38.2
900-999	19,740	3.0	56.1	37,159	2.9	41.1
1,000-1,999	144,190	21.9	78.0	316,983	24.5	65.6
2,000-2,999	88,766	13.5	91.5	169,847	13.1	78.7
3,000-3,999	25,959	3.9	95.4	122,819	9.5	88.2
4,000-4,999	12,975	2.0	97.4	51,426	4.0	92.2
5,000-5,999	10,805	1.7	99.1	38,825	3.0	95.2
6,000+	6,102	0.9	100.0	61,538	4.8	100.0
Total	656,445	100.0	100.0	$1,294,277	100.0	100.0

* For 50 selected procedures

Source: Beneficiary Profile Printouts for GHI and BC/BS, August 14, 1978 PIPGC986 and PIPGC987 respectively.

TABLE 13-23

Distribution of Aged Beneficiaries in Queens and Nassau Using Services by Percent of Claims Assigned in 1976

GHI: Non-hospital claims only	Beneficiaries			
	Queens		Nassau	
Percent of claims assigned	Number	Percent	Number	Percent
0	1,206	63.4%	1,410	59.5%
1-49	216	11.4	344	14.5
50-89	150	7.8	215	9.1
90+	330	17.4	399	16.9
Total beneficiaries using services	1,902	100.0	2,368*	100.0

	Queens	Nassau
Mean	25.3	26.3
Standard deviation	39.3	38.9
Minimum value	0	0
Maximum value	100.0	100.0

* 67 beneficiaries are excluded from the total because it is not known whether their claims are assigned or nonassigned.

Source: Beneficiary Profile Printouts for GHI and BC/BS, July 19, 1978 PIPGC969 and PIPGC977 respectively.

TABLE 13-24

Distribution of Beneficiaries in Queens and Nassau Using Services by Type of Service

	Beneficiaries			
	Queens		Nassau	
Type of Service	Number	Percent	Number	Percent
Medical only	1300	68.3%	1620	66.5%
Surgical only	41	2.2	48	2.0
Both	469	24.7	706	29.0
Neither	92	4.8	61	2.5
All beneficiaries using services	1902	100.0	2435	100.0

Source: Beneficiary Profile Printouts for GHI and BC/BS, July 19, 1978 PIPGC957 and August 17, 1978 PIPGC996 respectively.

TABLE 13-25

Distribution of Queens Assigned and Unassigned Services, and Submitted Charges by Type of Service

	Assigned				Unassigned				Total					
	Services		Submitted Charges		Services		Submitted Charges		Services		Submitted Charges		Submitted Charges per	Services per Active
Type of Service	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Service	Beneficiary
Total - Queens	6,101	100.0%	$150,368	100.0%	13,652	100.0%	$269,854	100.0%	19,753	100.0%	$420,222	100.0%	$21.27	10.35
Medical	5,247	86.0	104,461	69.4	10,981	80.5	194,366	72.0	16,228	82.2	298,827	71.1	18.41	8.51
Surgical	71	1.2	31,892	21.2	204	1.5	42,880	15.9	275	1.4	74,772	17.8	271.90	.14
Radiology	159	2.6	6,415	4.3	319	2.3	10,164	3.8	478	2.4	16,579	3.9	34.68	.25
Laboratory	624	10.2	7,600	5.1	2,148	15.7	22,444	8.3	2,772	14.0	30,044	7.2	10.84	1.45

Total submitted charges per active beneficiary - $220.24

N = 1,908

Source: GHI Beneficiary Profile Printout, PIPGC969 July 19, 1978.

TABLE 13-26

Distribution of Nassau Assigned and Unassigned Services, and Submitted Charges by Type of Service

	Assigned				Unassigned				Total					
	Services		Submitted Charges		Services		Submitted Charges		Services		Submitted Charges		Submitted Charges per	Services per Active
Type of Service	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Service	Beneficiary
Total - Nassau	13,165	100.0%	$299,894	100.0%	18,867	100.0%	$405,590	100.0%	32,032	100.0%	$705,484	100.0%	$22.02	13.15
Medical	11,123	84.5	233,450	77.9	14,901	79.0	285,864	70.5	26,024	81.2	519,314	73.6	19.96	10.69
Surgical	308	2.3	39,864	13.3	700	3.7	70,478	17.4	1,008	3.2	110,342	15.7	109.47	.41
Radiology	214	1.6	6,420	2.1	472	2.5	15,000	3.7	686	2.1	21,420	3.0	31.22	.28
Laboratory	1,520	11.6	20,160	6.7	2,794	14.8	34,248	8.4	4,314	13.5	54,408	7.7	12.61	1.77

Total submitted charges per active beneficiary - $289.73

N = 2,435

Source: BC/BS Beneficiary Profile Printout, PIPGC977, July 19, 1978.

TABLE 13-27

Distribution of Queens Medical Services by Level of Submitted Charges, and by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Percent of Total Submitted Charges	Assigned Claims as Percent of Total Claims	Assigned Submitted Charges as Percent of Total Submitted Charges
Under $10	1.9%	0.7%	19.9%	22.8%
$10-14	19.7	12.1	20.9	21.5
15-19	30.5	25.7	29.3	29.1
20-24	30.6	33.6	37.7	37.6
25-29	11.1	15.2	42.3	42.7
30-34	2.7	4.4	31.1	31.1
35-39	1.8	3.6	57.2	57.2
40-49	0.6	1.2	36.3	36.4
50-74	1.0	2.7	52.0	52.7
75-99	0.1	0.4	53.3	53.5
100-199	*	0.2	66.7	69.2
600-999	*	0.2	*	*
Total	100.0	100.0	47.8	35.0

*Less than 0.1 %

Source: GHI Beneficiary Profile Printout, PIPGC969 July 19, 1978

TABLE 13-28

Distribution of Nassau Medical Services by Level of Submitted Charges and by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Submitted Charges	Assigned Claims as Percent of Total Claims [a/]	Assigned Submitted Charges as Percent of Total Submitted Charges [a/]
Under $10	2.7%	0.9%	53.9%	55.4%
$10-14	12.6	7.5	32.0	33.1
15-19	24.8	19.3	30.8	31.0
20-24	35.2	35.7	51.8	51.9
25-29	16.8	21.2	47.7	47.7
30-34	3.2	4.9	48.5	48.4
35-39	2.0	3.5	42.5	42.4
40-49	0.9	2.0	53.4	54.1
50-74	1.5	3.9	55.5	55.5
75-79	0.2	0.7	36.7	37.0
100-199	0.1	0.4	35.0	32.0
Total	100.0	100.0	42.7	45.0

a/ There are 2,364 claims with a value of $45,877 submitted charges which are excluded from the total because it is not known whether they are assigned or unassigned.

Source: BC/BS Beneficiary Profile Printout, PIPGC977, July 19, 1978.

TABLE 13-29

Distribution of Queens Surgical Services by Level of Submitted Charges and by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Percent of Total Submitted Charges	Assigned Claims as Percent of Total Claims	Assigned Submitted Charges as Percent of Total Submitted Charges
Under $10	* %	* %	0 %	0 %
10-19	17.9	1.0	20.4	20.6
20-29	17.9	1.5	26.5	26.1
30-39	11.4	1.3	6.5	6.5
40-49	2.2	0.4	33.3	34.6
50-74	8.5	1.7	17.4	18.5
75-99	2.9	0.8	12.5	12.2
100-199	6.7	3.9	22.2	20.6
200-299	5.9	5.0	43.8	44.5
300-399	2.9	3.4	12.5	14.8
400-999	14.9	40.6	34.2	37.1
1,000+	8.8	40.4	54.2	56.6
Total	100.0	100.0	25.8	42.7

* Less than 0.1

Source: GHI Beneficiary Profile PIPGC969 July 19, 1978

TABLE 13-30

Distribution of Nassau Surgical Services by Level of Submitted Charges by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Percent of Total Submitted Charges	Assigned Claims as Percent of Total Claims [a]	Assigned Submitted Charges as Percent of Total Submitted Charges [a]
Under $10	3.9%	0.1%	0 %	0 %
$10-19	8.5	1.3	23.1	24.1
20-29	32.6	7.3	37.0	35.8
30-39	27.9	8.3	28.5	29.2
40-49	5.7	2.3	13.8	13.0
50-74	5.1	2.4	24.4	24.5
75-99	1.6	1.1	40.0	39.4
100-199	4.0	5.0	38.0	38.7
200-299	1.7	3.5	75.0	75.0
300-399	.5	1.5	80.0	79.8
400-499	5.7	39.3	35.6	37.8
1000+	2.8	27.9	33.3	31.8
Total	100.0	100.0	30.6	36.1

[a] There are 59 claims with a value of $6,987 submitted charges which are excluded from total because it is not known whether they are assigned or unassigned.

Source: BC/BS Beneficiary Profile Printout, PIPGC977, July, 1978

TABLE 13-31

Distribution of Queens Radiology Services by Level of Submitted Charges, and by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Percent of Total Submitted Charges	Assigned Claims as Percent of Total Claims	Assigned Submitted Charges as Percent of Total Submitted Charges
Under $10	1.3%	0.3%	0 %	0 %
$10-19	12.1	5.4	25.9	28.5
20-29	46.6	30.0	19.6	20.2
30-39	12.1	11.1	39.7	40.8
40-49	1.7	2.0	75.0	73.9
50-74	17.0	27.6	76.5	73.1
75-99	9.0	21.1	23.3	23.6
100-199	0.8	2.6		
Total	100.0	100.0	33.3	38.7

Source: GHI Beneficiary Profile Printout PIPGC969, July 19, 1978.

TABLE 13-32

Distribution of Nassau Radiology Services by Level of Submitted Charges and by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Percent of Total Submitted Charges	Assigned Claims as Percent of Total Claims [a/]	Assigned Submitted Charges as Percent of Total Submitted Charges [a/]
Under $10	0.1%	* %	0 %	0 %
$10-19	14.2	6.4	33.7	32.6
20-29	55.2	39.2	30.3	30.5
30-39	10.8	10.5	25.0	25.7
40-49	3.5	4.5	72.0	72.4
50-74	4.4	8.2	48.3	46.4
75-99	10.5	26.2	20.0	20.3
100-199	1.3	5.0	11.1	11.0
Total	100.0	100.0	31.1	30.0

* Less than 0.1%

a/ There are 73 claims with a value of $2,664 submitted charges which are excluded from the total because it is not known whether they are assigned or unassigned.

Source: BC/BS Beneficiary Profile Printout, PIPGC977 July 19, 1978

TABLE 13-33

Distribution of Queens Laboratory Services by Level of Submitted Charges and by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Percent of Total Submitted Charges	Assigned Claims as Percent of Total Claims	Assigned Submitted Charges as Percent of Total Submitted Charges
Under $10	64.6%	25.3%	21.0%	20.8%
$10-19	8.2	9.7	22.5	19.8
20-29	19.4	41.3	23.8	24.4
30-39	6.7	19.4	27.0	28.1
40+	1.1	4.1	58.1	59.6
Total	100.0	100.0	22.5	25.3

Source: GHI Beneficiary Profile Printout PIPGC969 July 19, 1978

TABLE 13-34

Distribution of Nassau Laboratory Services by Level of Submitted Charges and by Assigned and Unassigned Claims

Submitted Charge in Dollars	Percent of Total Claims	Percent of Total Submitted Charges	Assigned Claims as Percent of Total Claims[a/]	Assigned Submitted Charges as Percent of Total Submitted Charges[a/]
Under $10	59.6%	24.3%	33.5%	36.6%
$10-19	7.1	6.6	56.9	56.9
20-29	24.5	46.5	30.8	30.8
30-39	8.0	19.6	37.3	38.6
40+	0.8	3.0	52.9	48.2
Total	100.0	100.0	35.2	37.1

a/ There are 380 claims with a value of $4,735 submitted charges which are excluded from total because it is not known whether they are assigned or unassigned.

Source: BC/BS Beneficiary Profile Printout, PIPGC977 July 19, 1978.

TABLE 13-35

Distribution of Beneficiaries in Queens and Nassau Using Services by Number of Different Procedures * Received in 1976

	Beneficiaries			
	Queens		Nassau	
Number of Different Procedures	Number	Percent	Number	Percent
1 only	490	27.6%	453	18.7%
2	363	20.5	347	14.3
3	250	14.1	309	12.7
4	196	11.1	253	10.4
5 - 9	393	22.2	713	29.3
10 - 14	71	4.0	231	9.5
15+	9	.5	124	5.1
Beneficiaries using services	1772	100.0	2430	100.0

	Queens	Nassau
Mean	3.5	5.3
S.D.	2.8	4.5
Minimum value	1	1
Maximum value	19	40
Variance	7.8	20.2
C.V.	79.6	85.4

* Based on the 50 leading procedures only.

Source: Beneficiary Profile Printouts for GHI and BC/BS, July 19, 1978, PIPGC946 and August 21, 1978, PIPGC999 respectively.

TABLE 13-36

Distribution of Beneficiaries in Queens and Nassau by Median Interval Between Services for Selected Procedures

Procedure and Type		Beneficiaries with Procedure				Percent of Beneficiaries Who Used Procedure Only Once		Median Interval in Days for Beneficiaries Using Procedure More than Once	
BMI Code	Procedure Description	Queens		Nassau					
		Number	Percent of Sample	Number	Percent of Sample	Queens	Nassau	Queens	Nassau
I. Medical procedures									
1.	Initial office visit-routine, new patient	-	-	229	9.4%	-	87.8 %	-	58
2.	Office visit-comprehensive	237	12.5%	235	9.7	89.0%	92.8	68	23
4.	Follow-up office visit-routine	1,530	80.4	1,980	81.3	19.1	17.8	35	52
5.	Day home visit, initial or subsequent	170	8.9	195	8.0	50.6	44.6	22	20
7.	Routine initial hospital visit	165	8.7	378	15.5	80.6	72.2	33	51
8.	Follow-up hospital visit	316	16.6	568	23.3	3.5	4.9	1	1
II. Surgical Procedures									
10.	Radical mastectomy	1	0.1	2	0.1	100.0	100.0	-	-
11.	Multiple pinning femur	13	0.7	-	-	100.0	-	-	-
12.	Arthrocentesis	4	0.2	15	0.6	25.0	86.6	**	**
13.	Puncture of bursa	11	0.6	1	*	72.7	100.0	**	
15.	Thoracentesis	1	0.1	8	0.3	-	87.5	**	**
16.	Right heart catheterization	2	0.1	1	*	100.0	-	-	**
17.	Inserting pacemaker	4	0.2	9	0.4	75.0	77.8	**	**
19.	Colectomy	6	0.3	8	0.3	66.7	100.0	**	-
20.	Appendectomy	-	-	2	0.1	-	100.0	-	-
21.	Proctosigmoidoscopy	56	2.9	182	7.5	94.6	83.5	**	110

TABLE 13-36 (continued)

Distribution of Beneficiaries in Queens and Nassau by Median Interval Between Services for Selected Procedures

Procedure and Type		Beneficiaries with Procedure				Percent of Beneficiaries Who Used Procedure Only Once		Median Interval in Days for Beneficiaries Using Procedure More than Once	
BHI Code	Procedure Description	Queens		Nassau					
		Number	Percent of Sample	Number	Percent of Sample	Queens	Nassau	Queens	Nassau
22.	Hemmorrhoidectomy	2	0.1	1	*	100.0	100.0	-	-
23.	Cholecystectomy	3	0.2	8	0.3	100.0	87.5	**	**
24.	Hernioplasty	9	0.5	8	0.3	77.7	100.0	**	-
25.	Cystoscopy	22	1.2	40	1.6	81.8	77.5	81	39
26.	Dilation of urethra	22	1.2	2	0.1	40.9	100.0	67	-
27.	Prostatectomy	8	0.4	1	*	87.5	100.0	**	-
28.	Resection of prostate	7	0.4	26	1.1	71.5	96.1	**	**
29.	Hysterectomy	3	0.2	4	0.2	66.7	100.0	**	-
30.	Lens extraction	14	0.7	47	1.9	78.6	91.4	**	**
III.	Radiological procedures								
31.	Radiology-Chest	291	15.3	403	16.6	80.1	77.3	36	93
32.	Radiology-Lumbar	5	0.3	11	0.5	100.0	100.0	-	-
33.	Radiology-Hip	1	0.1	2	0.1	100.0	50.0		**
34.	Radiology-Upper GI	38	2.0	63	2.6	97.4	98.4	**	**
35.	Radiology-Colon	26	1.4	51	2.1	96.1	94.1	**	**
36.	Radiation therapy-low volt	3	0.2	8	0.3	-	12.5	**	10

TABLE 13-36 (continued)

Distribution of Beneficiaries in Queens and Nassau by Median Interval Between Services for Selected Procedures

Procedure and Type		Beneficiaries with Procedure				Percent of Beneficiaries Who Used Procedure Only Once		Median Interval in Days for Beneficiaries Using Procedure More than Once	
BHI Code	Procedure Description	Queens		Nassau					
		Number	Percent of Sample	Number	Percent of Sample	Queens	Nassau	Queens	Nassau
IV.	Laboratory procedures								
38.	Hemoglobin	59	3.1	104	4.3	62.7	65.4	39	79
39.	White cell count	3	0.2	6	0.2	66.7	83.3	**	**
40.	Complete blood count	129	6.8	249	10.2	71.3	63.9	41	88
41.	Cholesterol	38	2.0	177	7.3	68.4	69.5	47	93
42.	Hematocrit	23	1.2	78	3.2	69.6	65.4	31	85
43.	Prothrombin time	18	0.9	16	0.7	27.8	56.3	26	30
44.	Sedimentation rate	77	4.0	129	5.3	80.5	72.9	56	88
45.	Blood glucose	129	6.8	311	12.7	50.4	57.9	40	74
46.	Blood urea nitrogen	32	1.7	202	8.3	84.4	69.8	32	79
47.	Pap smear	33	1.7	29	1.2	84.8	89.7	84	**
48.	Urinalysis	411	21.6	190	7.8	63.0	51.1	35	91
49.	EKG	526	27.7	893	36.7	68.8	63.3	56	88
50.	EEG	12	0.6	3	0.1	100.0	66.7	-	**

*Less than 0.1

** Less than 5 cases

	Queens	Nassau
All beneficiaries using services N =	1902	2435

Source: Beneficiary Profile Printouts August 25, 1978, PIPGC 007 and 010 respectively.

CHAPTER 14

MEDICAID

Chapters 12 and 13 profiled providers and beneficiaries under Medicare in Queens and Nassau counties in 1976. In Chapter 14, portraits of providers and beneficiaries under Queens Medicaid derived from the most comparable available data, claims submitted for service in the year July 1974 - July 1975, are presented. Measures of utilization such as numbers and type of services received, number of patients per physician, number of services per patient and revenue from Medicaid are considered. The findings are compared with Medicare and provider and beneficiary profiles but the comparison takes into account the different sampling techniques used and information about how Medicaid is used to supplement Medicare.

Introduction

The characteristics of providers and beneficiaries in Queens and Nassau counties obtained from Medicare claims data were reported in Chapters 12 and 13. This chapter deals with provider and beneficiary characteristics as revealed by Medicaid claims in Queens for the period July 1974 - July 1975 and their comparison with Medicare for the calendar year 1976. (As exactly comparable periods were not available from both sources, the 12 months of Medicaid that were closest chronologically to the Medicare data were selected for analysis.)

Statistical differences that will be presented in this chapter are fundamentally a reflection of the differences in the philosophy and rules of the two programs. Medicaid is a means test program (Title 19 of the Social Security Act Amendments of 1965) and Medicare is not. Medicaid is a fixed-fee program while Medicare tries to duplicate the "natural" market for physicians' services. Medicaid fees are set by the State of New York Medical Fee Schedule. In general, Medicaid fees were significantly lower than the Fee Year 1976 prevailing fees in Queens.

For the elderly in particular, statistical comparisons of Medicaid with Medicare must be interpreted against the background of who has Medicaid and how the program is used to finance care.

The state is required to provide Medicare coverage for the elderly under SSI (Supplementary Security Income). Since the income ceiling for coverage by Medicaid is much higher than for SSI many aged people are in the position of having Medicaid while the state has not bought into Medicare for them. It is unlikely that they have enrolled privately. This is one group whose claims for medical service are submitted to Medicaid.

For another group of elderly, Medicaid claims can arise because doctors are entitled to reimbursement from Medicaid for coinsurance and deductible in relation to Medicare services provided to buyins. The low rate of "utilization" (Medicaid claims) by the elderly suggests that in many instances physicians do not submit claims for the coinsurance. This impression was confirmed by Medicaid staff. However, there is some indication that doctors do use Medicaid for services provided before the deductible is met. This was in accord with the distribution of size of charge by age group of Medicaid patients. For those 65+ submitted charges were too large to be solely coinsurance and were therefore claims for full amounts. Distribution by procedure shows them to be mostly claims for initial office visits. One or two services per patient were typically received regardless of physician specialty type. Laboratory and radiology services under Medicaid were at a much lower rate for those 65+ than for those 55-64, which is consistent with use of Medicaid solely to provide reimbursement for services before the deductible is met. (The low rate of ancillary services indicates that Medicaid is not being used for the total care required by enrollees during a year.) Only a few surgical services were received, which is also consistent with use of Medicaid to meet the deductible, for operative procedures with larger charges would be acceptable under Medicare.

While surgeons performing high-cost procedures might consider it worthwhile to bill Medicaid for the coinsurance, possibly patients with such procedures got care in public hospitals.

Method of Study

Because of the enormous size of the New York City Medicaid claims file, it was not possible, within the computer and programming resources available

to the project, to process the entire data set. Therefore a method was devised for selecting a representative sample. Since a provider list was available but not a beneficiary list, a sample of providers was drawn and beneficiaries treated by those providers were used to construct the beneficiary profile.

A sample of Queens Medicaid providers was selected from the May 3, 1977 listing of "Medicaid Vendors with Participation Numbers by Type of Service", which showed all Medicaid providers in the City of New York. Out of a total of 2830 Queens providers, identified by their addresses, 565, or every fifth, were drawn into the sample. Specialty designation was obtained from the provider listing, and board status, from the Medical Directory of New York State 1976-1977. Medicaid claims data were obtained from the New York City Medicaid Bureau on 60 reels of tape representing claims for the period January 1973 - June 1975. All the tapes were searched to collect all claims submitted by the sample providers from July 1974 to June 1975. For better comparability with Medicare, the file was divided into two parts based on age in 1974:

1. Claims for services to beneficiaries under 65 (177,000 records).
2. Claims for services to beneficiaries aged 65 and over (10,146 records).

The file was then used to produce provider and beneficiary profiles showing the same kinds of information, whenever possible, as that obtained for Medicare. While the provider profile is based on all claims for the sample providers, the beneficiary profile is based only on claims submitted by these providers and excludes services received from other physicians. (But in Medicare, all services received by the beneficiary from providers within the county were tabulated.)

For the purpose of the study, beneficiaries were identified by age within their ID number since the number is not unique for an individual but is used for a whole family. By taking the year of birth into consideration, the problem of identification is diminished but not entirely eliminated since two married individuals (or twins or even siblings) could have the same year of birth. The tape does not state sex. For comparison with Medicare, specialty and procedure codes were converted to codes used by GHI.[1/]

In the provider profile statistics were produced for three groups by age of beneficiary:

- All beneficiaries
- Beneficiaries under 65
- Beneficiaries aged 65 and over

The groups for which beneficiary profile tables were produced were:

- Beneficiaries aged 65 and over
- Beneficiaries aged 55-64

The younger group, which was chosen for comparison with the elderly, was the most similar to them in terms of health status.

Provider Profile

Most of the Medicaid services of active Medicaid physicians are provided to beneficiaries under age 65. The average number of patients treated per provider is 300, but this figure reflects a few high-volume providers. (Table 14-1) The number of services per provider is 881 for all patient age groups, 861 for those under 65, and 68 for those aged 65 and over. (These figures are based only on providers with patients in the indicated age.

1/ All tables were produced by using the SAS computer package, release 76.6B.

group.) The number of different procedures performed per provider averages 18 for all age groups, 17 for those 55-64 and 7 for the patients aged 65 or more.

The mean Medicaid outlay per provider is $9,452. This is not markedly different from the mean outlay under Medicare, which is $10,209. However, the Medicare outlay per patient, $87.89, is more than double that for Medicaid, $37.51. (Table 14-1). Medicaid doctors tend to see more patients but provide fewer services per patient.

Table 14-2 presents the distribution of Medicaid physicians by specialty type and shows the specialty distributions of active providers who see younger patients and those who see older ones to be similar. However, dormant Medicaid physicians have a very different distribution; 60% were GPs, compared to 26% of active Medicaid doctors. Compared to Medicare providers, active Medicaid physicians are more concentrated in medical specialties, and are less likely to be in surgical and general practice fields.

Because of the skewed distribution of physicians by number of patients the mean is not a good measure of the number of patients per physician and the median is used instead.

The median number of patients per physician was 37 for all age groups, 30 for those under 65, and 18 for those 65+. For specialties other than pediatrics and psychiatry, the proportions of physicians in Medicaid and Medicare were fairly similar. (Table 14-3).

GPs and internists under Medicaid were more likely to provide 30 or more procedures, render 11 or more services per patient, see 400 or more patients, and receive total outlay of $20,000 or more than their counterparts under Medicare (Table 14-4).

Almost 2/5 of Medicaid physicians receive under $1,000 for all Medicaid patients they see, with over 2/5 receiving between $1,000 and $19,999 (Table 14-5a). For Medicare, more of the doctors are in higher revenue classes. Medical specialists in both Medicare and Medicaid were most likely to receive revenue of $1,000 or more, the percent being higher in Medicaid (71.8%) (Table 14-6a).

Both procedures and number of services per doctor show some relation to revenue. Medical specialists are the most likely group to perform 1,000 or more services (Table 14-10a). These relationships are also found in Medicare.

Over 45% of Medicaid physicians saw under 25 patients (Table 14-11a) compared to 37% for Medicare. The number of patients per physician is also related to revenue for both Medicaid and Medicare.

Of specialty types (Table 14-12a) medical specialists under Medicaid were the least likely to have under 25 patients and the most likely to have 400 or more patients. Again this is true for physicians under Medicare, but only 9% of Medicare physicians saw 400 or more patients compared to 39% for Medicaid.

Almost 60% of the doctors with Medicaid patients of age 65 and over were providing under 2 services per patient; another 35% provided between 2 and 6 services per patient and only 6% provided more. In contrast, for Medicaid patients under 65, only 37% of the doctors provided under 2 services per patient and 14% provided more, the highest category being 21 or more services. When patients of all ages are considered together, about 2/5 of physicians performed less than two services and over 46% performed between

2 and 6. The figures are consistent with use of Medicaid for the elderly to finance services incurred before the annual deductible of $60 under Medicare is satisfied. Analysis by Medicaid revenue class showed a smaller proportion with under two services per patient for MDs above the very low and low revenue classes. The proportion with under 2 services per patient was 200% as high for surgical specialists as for GPs and medical specialists; the contrast was less (150%) for the patient age group 65+. Generally, services per patient were higher under Medicare.

Provider Profile: Patients Aged 65 and Over

The main difference between the specialty distribution of Medicaid doctors treating persons aged 65 or more and that of the Medicare doctors is that pediatricians make up 8% of the former group (Table 14-3). When they are removed, the proportions of physicians in general practice, surgery, and other major fields are fairly similar, internal medicine and anesthesia having slightly higher representation in Medicaid and obstetrics/gynecology slightly lower.

Significant differences exist between means per physician treating aged Medicaid beneficiaries and those providing Medicare services: the former see fewer patients, provide fewer services *in toto* and per beneficiary, and have program receipts per patient equal to around 1/3 the Medicare level (Table 14-1). Their aggregate revenues from Medicaid are only 1/12 as large as those from Medicare; this is mainly due to service volume and not to program outlay per service.

About 3/4 of the Medicaid MDs receive under $1,000 for patients aged 65 and over, and 1/4 receive between $1,000 and $20,000 (Table 14-5c). In both Medicaid and Medicare medical specialists had a higher likelihood

than other doctors of receiving over $1,000 for service to patients, but the percent was lower in Medicaid (34.0%) (Table 14-a,b,c).

In Medicaid, the proportion of doctors performing under ten procedures for elderly patients, which was 95.5% for the very low revenue class, went down to 33.3% for the high revenue class (Table 14-7c). Only two doctors performed 30 or more procedures; they were in "other" specialties (Table 14-8c). GPs and surgical specialists were most likely to do under ten procedures. In Medicare, number of procedures performed was also associated with revenue level but the percent of doctors with 30 or more was much higher.

Almost 70% of the Medicaid doctors had under 25 aged beneficiaries and only 7% had 100 or more (Table 14-11c). Medical specialists were the most likely to have 25 or more such patients; no GP had as many as 100 (Table 14-12c). Only 37% of the Medicare MDs had under 25 patients, and two-fifths of GPs had 100 or more patients.

Beneficiary Profile

Medicaid beneficiaries aged 55-64 were selected for comparison with the age group 65 and over and with aged Medicare enrollees. The intention was, first, to explore whether there are significant differences in utilization of physician services due to either age differences or benefits under the programs, and second, to compare physician behavior in the Medicaid and Medicare markets. There are 3,931 Medicaid beneficiaries in the oldest age group and 3,723 aged 55-64; however, the aged represented by the former group spread over the span of 34 years (65 to 99 years) compared to 10 years for the latter, creating obvious limitations to a comparison of service use. The distribution of the 55-64 year age group by single years of age is fairly even (Table 14-15).

The reasons for believing that Medicaid is used by the elderly or their providers as a supplemental finance program were referred to earlier on page 14-2. The low utilization by the age group 65 and over compared to age 55-64 is one of these reasons.

Utilization under Medicaid by the age group 65 and over was only 65% of the utilization rate among those aged 55-64 (1.13 and 1.75 services per person, respectively) although health status presumably is not better for the older group. It can be surmised that doctors often do not bother to bill Medicaid for coinsurance but simply accept assignment for the services rendered. Under these circumstances, no Medicaid claim would be generated.

Almost all aged Medicaid patients saw only 1 category of doctor-most often, medical or surgical specialists. Under 16% received any GP care and for almost all such persons the GP was the only doctor consulted. For those in the 55-64 age group, the pattern was similar, except that GPs were seen somewhat more often (Tables 14-16). These statistics offer a sharp contrast with Medicare. Half of the Medicare beneficiaries saw more than one category of doctor and forty percent used a GP either as the sole provider or in conjunction with medical or other specialists. Use of clinic care by the poor provides a probable explanation for the low utilization of GPs in private practice. Medicaid patients used not only more specialist services but also more services of board-certified physicians than Medicare patients. Of Medicaid patients 55-64, 20.6% used board-certified doctors, and of those 65 and over, 28.9% did so (Tables 14-17). Only 11.3% of Medicare patients used doctors with board certification. They may be more likely to travel outside Queens for care by this type of practitioner.

The number of different doctors seen is shown in Table 14-18. Under Medicaid almost all of both age groups studied saw only one doctor. The

average number seen was around 1 for both Medicaid groups, compared to 2.2 under Medicare. The differences may be explained by the sampling method used, which was based on provider selection in Medicaid, whereas in Medicare, claims for all providers used by the beneficiary sample were included.

Claims for Medicaid enrollees represent less diversified procedures for each claimant than Medicare claims. The fact that there were fewer different procedures per person in the claims for the older Medicaid group than for those 55 to 64 is consistent with the use of Medicaid to finance services preceding satisfaction of the Medicare deductible.

Fewer services per person were received under Medicaid (Tables 14-20a and 20b). A large majority of persons received between 1 and 3 services each, compared to 25.3% under Medicare. The number of services per person ranged up to 125 for those 55-64 and 48 for those 65 and over, as compared to a maximum of 214 for Medicare patients. Cumulative percents of aggregate services used by light and heavy users are as follows:

Services Per Patient	Medicaid		Medicare
	Age 55-64	Age 65+	(Age 65+)
1 - 3	27.6%	45.4%	3.5%
4 - 8	55.3	71.5	14.9
9 - 17	79.0	87.3	37.7
18 - 31	88.7	96.6	61.0
32 - 44	93.0	99.5	74.3
45+	100.0	100.0	100.0

As explained earlier, the total service utilization of the elderly is most likely not represented by these figures.

Aggregate charges per person were also lower for Medicaid beneficiaries.[1/] The mean approved charge per Medicaid beneficiary was $18.72 for the younger group, and $12.25 for the older group (Table 14-21), whereas in Medicare the mean submitted charges per patient was $220.24.[2/] Almost all Medicaid users in both age groups received services for which aggregate approved charges per beneficiary are under $200 (Table 14-22) as compared to 58.2% under Medicare. The Medicare figures are based on submitted charges, the total of which is an upper-bound estimate of physician receipts from Medicare. The overall percent of submitted charges subject to assignment is 35.8%, the figure being dominated by the medical[3/] assignment rate of 35%. That is, almost 2/3 of submitted charges are not confined to reasonable charge determination. It is therefore possible to use them in comparison with Medicaid and to conclude that Medicaid reimbursement rates translated into revenues per patient served were much below Medicare in Queens county.

Additional information on revenues produced by charges is provided by analysis of aggregate approved charges by level of charges per beneficiary (Table 14-23). Most of the flow of physician revenue from Medicaid is generated by aggregate charges per person under $200: the proportions are 76.2% for those who are 55-64 and 86.8% for those 65 and over. In contrast, only 14.8% of aggregate submitted charges under Medicare in Queens come from per beneficiary charges under $200.

The type of service most frequently received by both Medicaid and Medicare beneficiaries was medical. However, although the younger Medicaid group received slightly more services per beneficiary for each service type than the older

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1/ The use of Medicaid to supplement Medicare is not adequate to explain the difference, because the charges are lower for the younger Medicaid group as well as for those 65+.

2/ Services received in public hospital settings may largely account for the small size of Medicaid physician charges per person.

3/ Procedure type.

group, especially for medical and laboratory, the level is still considerably less than under Medicare (Tables 14-24, 25, 26, 27). The discrepancy is even greater when the amount of charges is compared. For Medicaid, charges are based on the official fee schedule referred to on p.14-2.Older Medicaid patients received more expensive surgical and radiological procedures, and slightly less expensive laboratory procedures,than the younger patients.

	Medicaid		Medicare
	Approved Charge Per Service		
	55-64 years	65+ years	Submitted Charge Per Service
Total	$10.7	$10.9	$21.27
Medical	10.1	10.1	18.41
Surgical	49.8	70.3	271.90
Radiology	13.4	24.1	34.68
Laboratory	10.2	9.6	10.84

Medicaid charges for a group of patients result from the joint effect of the Medicaid fee schedule with procedure mix in claims submitted under Medicaid.

Analysis of size of approved charge by type of procedure yields the following findings:

Medical: More than half (65.3%) of services rendered to those aged 55-64 were under $10 and another 31.9% were between $15 and $19. Charges above this level are relatively rare. For the older enrollees, more of the charges were under $10 and less were between $15 and $19; in addition, more aged enrollees incurred charges ranging up to $299. (Table 14-24)

Surgical: For the younger Medicaid group, 56.3% of services received were under $10 as compared to only 10.7% for the older group. The highest level for the enrollees aged 55-64 was $300-399 (3.4% of total services) while for those 65 and over it was $200-299 (3.0% of services). (Table 14-25).

Radiology: The charge level $10-19 accounts for 56.9% of all services to the younger group, but 44.8% for the older groups. The highest charge class for the younger group, $30-39, represents 2.0% of services. The older group had more expensive services, ranging up to $40-49 for 1.0% of services received. (Table 14-26).

Laboratory: Sixty to seventy percent of services and over 90% of charges are at the charge level $10-19 for the two Medicaid groups, the younger group incurring slightly more expensive services. (Table 14-27).

Procedure Mix

Procedure mix under Medicaid is assumed to be the result of interaction of patient, provider and program factors. The patient's health status, attitudes and life circumstances predispose to a certain pattern of use of health services under utility maximization assumptions, after overall constraints affecting the poor (such as types of doctors to whom access is available) are taken into account. The provider adjusts procedure mix and volume in consideration of relative payment opportunities determined by the program fee schedule, the patient's availability based on medical appropriateness, and cost of provider inputs, including both money costs and opportunity costs.

Procedure mix findings are based on 50 procedures comparable with those regularly reported under Medicare.[1/] The data are in the form of number of users per 100 enrollees using any services and the percent of beneficiaries who used the procedure only once during the claims period of 12 months. For those procedures with only a single use per user, the number of beneficiaries is, of course, identical with procedure frequency. Similar statistics for Medicare are used for comparison.

1/ Because of procedure code differences, only 42 Medicare procedures could actually be used for comparison. Not all of these were reported as performed under Medicaid.

The user rate per 100 patients is computed for the Medicaid groups 55-64 and 65 and over, and for Queens Medicare. For the elderly, the use pattern on this basis is totally different, which can be explained by the use of Medicaid to finance initial care before meeting the deductible. Even for the younger Medicaid group, the data does not seem appropriate for testing a hypothesis about provider adjustment of procedure mix in response to relative payment differences under Medicare and Medicaid.

The user rate for all types of "visits" amounts to 127.1 per 100 Medicare users; i.e., some beneficiaries used more than one type of visit (e.g., hospital and office). The Medicaid patients 65+ had a rate of 51.6 and those 55-64, 61.0 (Table 14-38). There were no beneficiaries in Medicare using "initial office visit - routine, new patient" (Procedure No. 1) but 20-25 users per 100 were reported for the Medicaid groups. The user rate for follow-up office visit - routine (Procedure No. 4) while attaining 80.4 per 100 in Medicare was only 13.2 in Medicaid for age 55-64 and 9.9 for 65 and over. Differences in order of magnitude for chest X-ray, sigmoidoscopy and other procedures were also very large. For surgical operations, frequencies were too low for safe estimation of stable differences.

Summary

Medicaid physician and patient profiles for July 1974 - June 1975 were compared to portraits of providers and beneficiaries in Queens based on all claims submitted for Medicare service in the calendar year 1976. Findings reflect not only real differences in utilization between the two patient groups but also differences in proportion of the universe in the samples, use of the Medicaid program to finance care to the elderly as a supplement to Medicare coverage, and the provision of some medical service to indigents in public hospitals for which private physician claims are not submitted.

Fees were lower under Medicaid than allowed charges under Medicare. The average number of services per patient provided by each physician was lower but the average number of patients per physician was greater. For all groups of patients combined, the mean Medicaid outlay per provider was $9,452, not very different from the mean outlay under Medicare, which is $10,209; but the Medicaid outlay per patient was $37.51, under half that for Medicare.

Almost 2/5 of Medicaid physicians receive under $1,000 for all Medicaid patients they see, with over 2/5 receiving between $1,000 and $19,999. For Medicare, more of the doctors are in higher revenue classes. Medical specialists in both Medicare and Medicaid were most likely to receive revenue of $1,000 or more, the percent being higher in Medicaid. Because of the very high number of patients seen by some Medicaid providers, a mean of about 300 patients per physician was found with a median number of patients of 37 for all age groups of beneficiaries. Physicians performed an average of 3.8 services per patient under Medicaid.

TABLE 14-1

Comparison of Means Per Physician: Selected Variables, Queens Medicare Beneficiaries, 1976 vs. Medicaid Beneficiaries, July 1974-June 1975

	Mean Per Physician			
	Medicare		Medicaid	
	(1)	(2)	(3)	(4)
Variable		All	Under Age 65	Age 65 and Over
Number of beneficiaries	116.15*	299.97	290.59	26.88*
Number of services	730.11*	880.55	861.22	67.64*
Number of procedures	15.46	17.77	16.99	6.57
Services per beneficiary	5.51*	3.78	4.03	2.57*
Total outlay (amount approved)	$10,208.87*	$9,452.93	$9,172.72	$825.95*
Outlay per beneficiary	87.89	31.51	31.57	30.73
Outlay per service	13.98	10.74	10.65	12.21

* Z value of differences significant at the 5% level of significance.

Source: Physician Provider Profile printouts for GHI and Medicaid, 15 July 1978, PIPGC904, and 6 September 1978, PIPGC051, respectively.

TABLE 14-2

Distribution of Queens Medicaid Physicians by Specialty Type, Classified by Patient Age Group, and Compared to Medicare

Specialty Type	Total Sample	Queens Medicaid Physicians Activity Status: Dormant	Active	Patient Age: Under 65 years	65 years and over	Queens Medicare Physicians
General practice	47.4%	60.2%	26.3%	25.7%	26.0%	29.0%
Medical	23.9	20.2	30.0	30.6	33.3	23.9
Surgical	16.1	9.9	26.3	25.7	26.7	28.6
Other	12.6	9.7	17.4	18.0	14.0	18.5
Number of providers in sample (= 100.0%)	565	352	213	206	150	2,335

Source: Physician Provider Profile printouts for GHI and Medicaid, 15 July 1978, PIPGC904, and 6 September 1978, PIPGC051, respectively.

TABLE 14-3

Distribution of Queens Medicaid Physicians, July 1974-June 1975 by Specialty, Classified by Patient Age Group, and Compared to Medicare 1976

Code	Specialty	Queens Medicaid Physicians: Patient Age Group: Under Age 65 Number	Under Age 65 Percent	Age 65 and Over Number	Age 65 and Over Percent	All Beneficiaries Number	All Beneficiaries Percent	Queens Medicare Physicians * Number	Queens Medicare Physicians * Percent
	Total	206	100.0%	150	100.0%	213	100.0%	2335	100.0%
01	General practice	53	25.8	39	26.0	56	26.3	640	27.9
11	Internal medicine	36	17.5	33	22.0	37	17.4	447	19.5
37	Pediatrics	22	10.7	12	8.0	22	10.3	-	-
02	Surgery	16	7.8	11	7.3	19	8.9	187	8.2
26	Psychiatry	17	8.3	6	4.0	17	8.0	77	3.4
16	Obstetrics-gynecology	13	6.3	8	5.3	13	6.1	180	7.8
05	Anesthesiology	11	5.3	7	4.7	11	5.2	89	3.9
18	Ophthalmology	11	5.3	10	6.7	11	5.2	96	4.2
30	Radiology	5	2.4	4	2.7	5	2.3	84	3.7
34	Urology	5	2.4	4	2.7	5	2.3	46	2.0
04	Otolaryngology	4	1.9	3	2.0	4	1.9	56	2.4
07	Dermatology	3	1.5	3	2.0	3	1.4	51	2.2
13	Neurology	2	1.0	2	1.3	2	0.9	24	1.0
14	Neurosurgery	2	1.0	2	1.3	2	0.9	3	0.1
20	Orthopedic surgery	2	1.0	2	1.3	2	0.9	60	2.6

TABLE 14-3 (continued)

Distribution of Queens Medicaid Physicians July 1974-June 1975 by Specialty, Classified by Patient Age Group and Compared to Medicare 1976

		Queens Medicaid Physicians							
		Patient Age Group				All Beneficiaries		Queens Medicare Physicians *	
		Under Age 65		Age 65 and Over					
Code	Specialty	Number	Percent	Number	Percent	Number	Percent	Number	Percent
22	Pathology	2	1.0	2	1.3	2	0.9	33	1.4
29	Pulmonary diseases	1	0.5	1	0.7	1	0.5	7	0.3

* Total not equal to 100% because of specialties not included under Medicaid.

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

Physician Provider Profile printout for GHI, 15 July 1978, PIPGC904.

TABLE 14-4

Comparison of Physicians in the Two Leading Specialties by Selected Aspects of Medicare and Medicaid Experience, Queens Medicare, 1976 and Queens Medicaid, July 1974-June 1975

	Percent of physicians in indicated category for each physician			
	Queens Medicare		Queens Medicaid	
Variable	General Practice	Internal Medicine	General Practice	Internal Medicine
	01	11	01	11
30+ procedures	8.3%	19.2%	16.1%	29.7%
1,000+ services	28.8	49.9	21.4	37.8
400+ patients	1.6	9.8	23.2	40.5
11+ services per patient	16.3	20.1	71.4	91.9
Total outlay $20,000+	5.5	31.3	10.7	32.4

Source: Physician Provider Profile printouts for GHI and Medicaid, 15 July 1978, PIPGC904, and 6 September 1978, PIPGC051, respectively.

TABLE 14-5a

Amount Approved by Physician's Revenue Class for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

	All Physicians	
Revenue Class	Number	Percent
All physicians	213	100.0%
Very low (under $1,000)	83	39.0
Low ($1,000-19,999)	92	43.2
Medium ($20,000-59,999)	32	15.0
High ($60,000 and over)	6	2.8

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-5b

Amount Approved by Physician's Revenue Class for Medicaid Beneficiaries Under Age 65: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Amount Approved: Under $1,000	$ 1,000-19,999	$20,000-59,999	$60,000 and over
All physicians	206	87	86	27	6
Very low (under $1,000)	77	77	-	-	-
Low ($1,000-19,999)	91	10	81	-	-
Medium ($20,000-59,999)	32	-	5	27	-
High ($60,000 and over)	6	-	-	-	6

Revenue Class	All Physicians (Percent)		Amount Approved: Under $1,000	$ 1,000-19,999	$20,000-59,999	$60,000 and over
All physicians	100.0%	100.0%	42.2%	41.7%	13.1%	2.9%
Very low	37.4	100.0	100.0	-	-	-
Low	44.2	100.0	11.0	89.0	-	-
Medium	15.5	100.0	-	15.6	84.4	-
High	2.9	100.0	-	-	-	100.0

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-5c

Amount Approved by Physician's Revenue Class for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Amount Approved: Under $1,000	$ 1,000-19,999	$20,000-59,999	$60,000 and over
All physicians	150	114	36	-	-
Very low (under $1,000)	44	44	-	-	-
Low ($1,000-19,999)	68	53	15	-	-
Medium ($20,000-59,999)	32	13	19	-	-
High ($60,000 and over)	6	4	2	-	-

Revenue Class	All Physicians (Percent)		Amount Approved: Under $1,000	$ 1,000-19,999	$20,000-59,999	$60,000 and over
All physicians	100.0%	100.0%	76.0%	24.0%	-	-
Very low	29.3	100.0	100.0	-	-	-
Low	45.3	100.0	77.9	22.1	-	-
Medium	21.3	100.0	40.6	59.4	-	-
High	4.0	100.0	66.7	33.3	-	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-6a

Amount Approved per Physician by Specialty Type for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Amount Approved Under $1,000	$1,000-19.999	$20,000-59,999	$60,000 and over
All physicians	213	83	92	32	6
General practice	56	32	18	5	1
Medical	64	18	26	18	2
Surgical	56	20	27	6	3
Other	37	13	21	3	-

Specialty Type	All Physicians (Percent)		Amount Approved Under $1,000	$1,000-19,999	$20,000-59,999	$60,000 and over
All physicians	100.0%	100.0%	39.0%	43.2%	15.0%	2.8%
General practice	26.3	100.0	57.1	32.1	8.9	1.8
Medical	30.0	100.0	28.1	40.6	28.1	3.1
Surgical	26.3	100.0	35.7	48.2	10.7	5.4
Other	17.4	100.0	35.1	56.8	8.1	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-6b

Amount Approved per Physician by Specialty Type for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Amount Approved: Under $1,000	$ 1,000-$19,999	$20,000-$59,999	$60,000 and over
All physicians	206	87	86	27	6
General practice	53	30	17	5	1
Medical	63	20	26	15	2
Surgical	53	23	22	5	3
Other	37	14	21	2	-

Specialty Type	All Physicians (Percent)		Amount Approved: Under $1,000	$ 1,000-$19,999	$20,000-$59,999	$60,000 and over
All physicians	100.0%	100.0%	42.2 %	41.7 %	13.1 %	2.9 %
General practice	25.7	100.0	56.6	32.1	9.4	1.9
Medical	30.6	100.0	31.8	41.3	23.8	3.2
Surgical	25.7	100.0	43.4	41.5	9.4	5.7
Other	18.0	100.0	37.8	56.8	5.4	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-6c

Amount Approved per Physician by Specialty Type for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Amount Approved: Under $1,000	$ 1,000-$19,999	$20,000-$59,999	$60,000 and over
All physicians	150	114	36	-	-
General practice	39	35	4	-	-
Medical	50	33	17	-	-
Surgical	40	30	10	-	-
Other	21	16	5	-	-

Specialty Type	All Physicians (Percent)		Amount Approved: Under $1,000	$ 1,000-$19,999	$20,000-$59,999	$60,000 and over
All physicians	100.0%	100.0%	76.0 %	24.0 %	-	-
General practice	26.0	100.0	89.7	10.3	-	-
Medical	33.3	100.0	66.0	34.0	-	-
Surgical	26.7	100.0	75.0	25.0	-	-
Other	14.0	100.0	76.2	23.8	-	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-7a

Number of Procedures per Physician by Revenue Class for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Procedures: Under 10	10-29	30 and over
All physicians	213	105	68	40
Very low (under $1,000)	83	72	11	-
Low ($1,000-19,999)	92	31	49	12
Medium ($20,000-59,999)	32	2	8	22
High ($60,000 and over)	6	-	-	6

Revenue Class	All Physicians (Percent)		Number of Procedures: Under 10	10-29	30 and over
All physicians	100.0%	100.0%	49.3%	31.9%	18.8%
Very low	39.0	100.0	86.7	13.3	-
Low	43.2	100.0	33.7	53.3	13.0
Medium	15.0	100.0	6.3	25.0	68.8
High	2.8	100.0	-	-	100.0

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-7b

Number of Procedures per Physician by Revenue Class for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Procedures: Under 10	10-29	30 and over
All physicians	206	104	64	38
Very low (under $1,000)	77	70	7	-
Low ($1,000-19,999	91	32	48	11
Medium ($20,000-59,000)	32	2	9	21
High ($60,000 and over)	6	-	-	6

Revenue Class	All Physicians (Percent)		Number of Procedures: Under 10	10-29	30 and over
All physicians	100.0%	100.0%	50.5	31.1%	18.4%
Very low	37.4	100.0	90.9	9.1	-
Low	44.2	100.0	35.2	52.7	12.1
Medium	15.5	100.0	6.3	28.1	65.6
High	2.9	100.0	-	-	100.0

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-7c

Number of Procedures per Physician by Revenue Class for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Procedures Under 10	10-29	30 and over
All physicians	150	116	32	2
Very low (under $1,000)	44	42	2	-
Low ($1,000-19,999)	68	56	11	1
Medium ($20,000-59,999)	32	16	15	1
High ($60,000 and over)	6	2	4	-

Revenue Class	All Physicians (Percent)		Number of Procedures Under 10	10-29	30 and over
All physicians	100.0%	100.0%	77.3%	21.3%	1.3%
Very low	29.3	100.0	95.5	4.5	-
Low	45.3	100.0	82.4	16.2	1.5
Medium	21.3	100.0	50.0	46.9	3.1
High	4.0	100.0	33.3	66.7	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-8a

Number of Procedures per Physician by Specialty Type for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Procedures Under 10	10-29	30 and over
All physicians	213	105	68	40
General practitioner	56	36	11	9
Medical	64	18	29	17
Surgical	56	27	21	8
Other	37	24	7	6

Specialty Type	All Physicians (Percent)		Number of Procedures Under 10	10-29	30 and over
All physicians	100.0%	100.0%	49.3%	31.9%	18.8%
General practitioner	26.3	100.0	64.3	19.6	16.1
Medical	30.0	100.0	28.1	45.3	26.6
Surgical	26.3	100.0	48.2	37.5	14.3
Other	17.4	100.0	64.9	18.9	16.2

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-8b

Number of Procedures per Physician by Specialty Type for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Procedures: Under 10	10-29	30 and over
All physicians	206	104	64	38
General practitioner	53	34	11	8
Medical	63	19	28	16
Surgical	53	26	19	8
Other	37	25	6	6

Specialty Type	All Physicians (Percent)		Number of Procedures: Under 10	10-29	30 and over
All physicians	100.0%	100.0%	50.5%	31.1%	18.4%
General practitioner	25.7	100.0	64.2	20.8	15.1
Medical	30.6	100.0	30.2	44.4	25.4
Surgical	25.7	100.0	49.1	35.9	15.1
Other	18.0	100.0	67.6	16.2	16.2

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-8c

Number of Procedures per Physician by Specialty Type for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Procedures Under 10	10-29	30 and over
All physicians	150	116	32	2
General practitioner	39	35	4	-
Medical	50	32	18	-
Surgical	40	34	6	-
Other	21	15	4	2

Specialty Type	All Physicians (Percent)		Number of Procedures Under 10	10-29	30 and over
All physicians	100.0%	100.0%	77.3%	21.3%	1.3%
General practitioner	26.0	100.0	89.7	10.3	-
Medical	33.3	100.0	64.0	36.0	-
Surgical	26.7	100.0	85.0	15.0	-
Other	14.0	100.0	71.4	19.1	9.5

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-9a

Number of Services per Physician by Revenue Class for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Services: Under 100	100-999	1,000 and over
All physicians	213	101	65	47
Very low (under $1,000)	83	80	3	-
Low ($1,000-19,999)	92	21	60	11
Medium ($20,000-59,999)	32	-	2	30
High ($60,000 and over)	6	-	-	6

Revenue Class	All Physicians (Percent)		Number of Services: Under 100	100-999	1,000 and over
All physicians	100.0%	100.0%	47.4%	30.5%	22.1%
Very low	39.0	100.0	96.4	3.6	-
Low	43.2	100.0	22.8	65.2	12.0
Medium	15.0	100.0	-	6.3	93.7
High	2.8	100.0	-	-	100.0

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

Number of Services per Physician by Revenue Class for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Revenue Class	All physicians (Number)	Number of Services Under 100	100-999	1,000 and over
All physicians	206	102	59	45
Very low (under $1,000)	77	76	1	-
Low ($1,000-19,999)	91	26	56	9
Medium ($20,000-59,999)	32	-	2	30
High ($60,000 and over)	6	-	-	6

Revenue Class	All physicians (Percent)		Number of Services Under 100	100-999	1,000 and over
All physicians	100.0%	100.0%	49.5%	28.6%	21.8%
Very low	37.4	100.0	98.7	1.3	-
Low	44.2	100.0	28.6	61.5	9.9
Medium	15.5	100.0	-	6.3	93.7
High	2.9	100.0	-	-	100.0

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-9c

Number of Services per Physician by Revenue Class for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Services Under 100	100 - 999	1,000 and over
All physicians	150	118	32	-
Very low (under $1,000)	44	44	-	-
Low ($1,000-19,999)	68	56	12	-
Medium ($20,000-59,999)	32	14	18	-
High ($60,000 and over)	6	4	2	-

Revenue Class	All Physicians (Percent)		Number of Services Under 100	100 - 999	1,000 and over
All physicians	100.0%	100.0%	78.7%	21.3%	-
Very low	29.3	100.0	100.0	-	-
Low	45.3	100.0	82.4	17.6	-
Medium	21.3	100.0	43.8	56.2	-
High	4.0	100.0	66.7	33.3	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-10a

Number of Services per Physician by Specialty Type for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Services: Under 100	100-999	1,000 and over
All physicians	213	101	65	47
General practitioner	56	32	12	12
Medical	64	17	22	25
Surgical	56	32	16	8
Other	37	20	15	2

Specialty Type	All Physicians (Percent)		Number of Services: Under 100	100-999	1,000 and over
All physicians	100.0%	100.0%	47.4%	30.5%	22.1%
General practitioner	26.3	100.0	57.1	21.4	21.4
Medical	30.0	100.0	26.6	34.4	39.1
Surgical	26.3	100.0	57.1	28.6	14.3
Other	17.4	100.0	54.1	40.5	5.4

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-10b

Number of Services per Physician by Specialty Type for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Services Under 100	100-999	1,000 and over
All physicians	206	102	59	45
General practitioner	53	31	11	11
Medical	63	20	19	24
Surgical	53	31	14	8
Other	37	20	15	2

Specialty Type	All Physicians (Percent)		Number of Services Under 100	100-999	1,000 and over
All physicians	100.0%	100.0%	49.5%	28.6%	21.8%
General practitioner	25.7	100.0	58.5	20.8	20.8
Medical	30.6	100.0	31.8	30.2	38.1
Surgical	25.7	100.0	58.5	26.4	15.1
Other	18.0	100.0	54.1	40.5	5.4

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

Number of Services per Physician by Specialty Type for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Services		
		Under 100	100-999	1,000 and over
All physicians	150	118	32	-
General practitioner	39	31	8	-
Medical	50	34	16	-
Surgical	40	34	6	-
Other	21	19	2	-

Specialty Type	All Physicians (Percent)		Number of Services		
			Under 100	100-999	1,000 and over
All physicians	100.0%	100.0%	78.7%	21.3%	-
General practitioner	26.0	100.0	79.5	20.5	-
Medical	33.3	100.0	68.0	32.0	-
Surgical	26.7	100.0	85.0	15.0	-
Other	14.0	100.0	90.5	9.5	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-11a

Number of Beneficiaries per Physician by Revenue Class for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	213	96	19	20	13	14	51
Very low (under $1,000)	83	72	10	1	-	-	-
Low ($1,000-19,999)	92	24	9	19	12	12	16
Medium ($20,000-59,999)	32	-	-	-	1	2	29
High ($60,000 and over)	6	-	-	-	-	-	6

Revenue Class	All Physicians (Percent)		Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	100.0%	100.0%	45.1%	8.9%	9.4%	6.1%	6.6%	23.9%
Very low	39.0	100.0	86.7	12.0	1.2	-	-	-
Low	43.2	100.0	26.1	9.8	20.7	13.0	13.0	17.4
Medium	15.0	100.0	-	-	-	3.1	6.3	90.6
High	2.8	100.0	-	-	-	-	-	100.0

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-11b

Number of Beneficiaries per Physician by Revenue Class for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	206	96	19	20	8	16	47
Very low (under $1,000)	77	68	8	1	-	-	-
Low ($1,000-19,999)	91	28	11	18	8	12	14
Medium ($20,000-59,999)	32	-	-	1	-	4	27
High ($60,000 and over)	6	-	-	-	-	-	6

Revenue Class	All Physicians (Percent)		Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	100.0%	100.0%	46.6%	9.2%	9.7%	3.9%	7.8%	22.8
Very low	37.4	100.0	88.3	10.4	1.3	-	-	-
Low	44.2	100.0	30.8	12.1	19.8	8.8	13.2	15.4
Medium	15.5	100.0	-	-	3.1	-	12.5	84.4
High	2.9	100.0	-	-	-	-	-	100.0

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-11c

Number of Beneficiaries per Physician by Revenue Class for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	150	103	18	18	10	1	-
Very low (under $1,000)	44	43	1	-	-	-	-
Low ($1,000-19,999)	68	46	9	9	4	-	-
Medium ($20,000-59,999)	32	11	7	9	5	-	-
High ($60,000 and over)	6	3	1	-	1	1	-

Revenue Class	All Physicians (Percent)		Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	100.0%	100.0%	68.7%	12.0%	12.0%	6.7%	0.7%	-
Very low	29.3	100.0	97.7	2.3	-	-	-	-
Low	45.3	100.0	67.6	13.2	13.2	5.9	-	-
Medium	21.3	100.0	34.4	21.9	28.1	15.6	-	-
High	4.0	100.0	50.0	16.7	-	16.7	16.7	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

Number of Beneficiaries per Physician by Specialty Type for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Specialty Type	All physicians (Number)	Number of Beneficiaries Under 25	25-49	50-99	100-199	200-399	400 and over
All Physicians	213	96	19	20	13	14	51
General practitioner	56	30	6	5	2	-	13
Medical	64	18	4	3	6	8	25
Surgical	56	30	3	7	3	3	10
Other	37	18	6	5	2	3	3

Specialty Type	All physicians (Percent)		Number of Beneficiaries Under 25	25-49	50-99	100-199	200-399	400 and over
All Physicians	100.0%	100.0%	45.1%	8.9%	9.4%	6.1%	6.6%	23.9%
General practitioner	26.3	100.0	53.6	10.7	8.9	3.6	-	23.2
Medical	30.0	100.0	28.1	6.3	4.7	9.4	12.5	39.1
Surgical	26.3	100.0	53.6	5.4	12.5	5.4	5.4	17.9
Other	17.4	100.0	48.7	16.2	13.5	5.4	8.1	8.1

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC 051.

TABLE 14-12b

Number of Beneficiaries per Physician by Specialty Type for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	206	96	19	20	8	16	47
General practitioner	53	27	6	5	2	-	13
Medical	63	20	5	3	2	11	22
Surgical	53	29	4	6	3	1	10
Other	37	20	4	6	1	4	2

Specialty Type	All Physicians (Percent)		Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	100.0%	100.0%	46.6%	9.2%	9.7%	3.9%	7.8%	22.8%
General practitioner	25.7	100.0	50.9	11.3	9.4	3.8	-	24.5
Medical	30.6	100.0	31.8	7.9	4.8	3.2	17.5	34.9
Surgical	25.7	100.0	54.7	7.6	11.3	5.7	1.9	18.9
Other	18.0	100.0	54.1	10.8	16.2	2.7	10.8	5.4

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-12c

Number of Beneficiaries per Physician by Specialty Type for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	150	103	18	18	10	1	-
General practitioner	39	29	5	5	-	-	-
Medical	50	30	6	9	5	-	-
Surgical	40	29	4	3	3	1	-
Other	21	15	3	1	2	-	-

Specialty Type	All Physicians (Percent)		Number of Beneficiaries: Under 25	25-49	50-99	100-199	200-399	400 and over
All physicians	100.0%	100.0%	68.7%	12.0%	12.0%	6.7%	0.7%	-
General practitioner	26.0	100.0	74.4	12.8	12.8	-	-	-
Medical	33.3	100.0	60.0	12.0	18.0	10.0	-	-
Surgical	26.7	100.0	72.5	10.0	7.5	7.5	2.5	-
Other	14.0	100.0	71.4	14.3	4.8	9.5	-	-

Source: Queens Medicaid Provider Profile printout, 6 September 1978, PIPGC051.

TABLE 14-13a

Number of Services per Patient by Revenue Class for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All physicians	213	84	99	13	13	4
Very low (under $1,000)	83	38	39	2	3	1
Low ($1,000-19,999)	92	41	32	6	10	3
Medium ($20,000-59,999)	32	4	24	4	0	0
High ($60,000 and over)	6	1	4	1	0	0

Revenue Class	All Physicians (Percent)		Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All physicians	100.0%	100.0%	39.4	46.5	6.1	6.1	1.9
Very low	39.0	100.0	45.8	47.0	2.4	3.6	1.2
Low	43.2	100.0	44.6	34.8	6.5	10.9	3.3
Medium	15.0	100.0	12.5	75.0	12.5	-	-
High	2.8	100.0	16.7	66.7	16.7	-	-

Source: Queens Medicaid Provider Profile printout, 6 December 1978, PIPGC351.

TABLE 14-13b

Number of Services per Patient by Revenue Class for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All physicians	206	76	93	21	12	4
Very low (under $1,000)	77	32	35	6	3	1
Low ($1,000-19,999)	91	38	32	9	9	3
Medium ($20,000-59,999)	32	5	22	5	0	0
High ($60,000 and over)	6	1	4	1	0	0

Revenue Class	All Physicians (Percent)		Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All physicians	100.0%	100.0%	36.9	45.1	10.2	5.8	1.9
Very low	37.4	100.0	41.6	45.5	7.8	3.9	1.3
Low	44.2	100.0	41.8	35.2	9.9	9.9	3.3
Medium	15.5	100.0	15.6	68.8	15.6	-	-
High	2.9	100.0	16.7	66.7	16.7	-	-

Source: Queens Medicaid Provider Profile printout, 6 December 1978, PIPGC351.

TABLE 14-13c

Number of Services per Patient by Revenue Class for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Revenue Class	All Physicians (Number)	Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All Physicians	150	87	53	5	5	0
Very low (Under $1,000)	44	29	14	0	1	0
Low ($1,000-19,999)	68	47	15	2	4	0
Medium ($20,000-59,999)	32	7	22	3	0	0
High ($60,000 and over)	6	4	2	0	0	0

Revenue Class	All Physicians (Percent)		Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All Physicians	100.0%	100.0%	58.0	35.3	3.3	3.3	-
Very low	29.3	100.0	65.9	31.8	-	2.3	-
Low	45.3	100.0	69.1	22.1	2.9	5.9	-
Medium	21.3	100.0	22.0	68.8	9.4	-	-
High	4.0	100.0	67.7	33.3	-	-	-

Source: Queens Medicaid Provider Profile printout, 6 December 1978, PIPGC 351.

TABLE 14-14a

Number of Services per Patient by Specialty Type for All Medicaid Beneficiaries: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All physicians	213	84	99	13	13	4
General practitioner	56	17	34	2	2	1
Medical	64	15	40	3	5	1
Surgical	56	34	22	0	0	0
Other	37	18	3	8	6	2

Specialty Type	All Physicians (Percent)		Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All physicians	100.0%	100.0%	39.4	46.5	6.1	6.1	1.9
General practitioner	26.3	100.0	30.4	60.7	3.6	3.6	1.8
Medical	30.0	100.0	23.4	62.5	4.7	7.8	1.6
Surgical	26.3	100.0	60.7	39.3	0	0	0
Other	17.4	100.0	48.6	8.1	21.6	16.2	5.4

Source: Queens Medicaid Provider Profile printout, 6 December 1978, PIPGC351.

TABLE 14-14b

Number of Services per Patient by Specialty Type for Medicaid Beneficiaries under Age 65: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All Physicians	206	76	93	21	12	4
General Practitioner	53	15	30	5	2	1
Medical	63	13	37	8	4	1
Surgical	53	30	23	0	0	0
Other	37	18	3	8	6	2

Specialty Type	All Physicians (Percent)		Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All Physicians	100.0%	100.0%	36.9	45.1	10.2	5.8	1.9
General Practitioner	25.7	100.0	28.3	56.6	9.4	3.8	1.9
Medical	30.6	100.0	20.6	58.7	12.7	6.4	1.6
Surgical	25.7	100.0	56.6	43.4	0	0	0
Other	18.0	100.0	48.6	8.1	21.6	16.2	5.4

Source: Queens Medicaid Provider Profile printout, 6 December 1978, PIPGC351.

Number of Services per Patient by Specialty Type for Medicaid Beneficiaries Age 65 and Over: Queens Physicians, July 1974-June 1975

Specialty Type	All Physicians (Number)	Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All physicians	150	87	53	5	5	0
General practitioner	39	21	16	1	1	0
Medical	50	17	26	4	3	0
Surgical	40	32	8	0	0	0
Other	21	17	3	0	1	0

Specialty Type	All Physicians (Percent)		Services per Patient 1-1.9	2-5.9	6-10.9	11-20.9	21 and over
All Physicians	100.0%	100.0%	58.0	35.3	3.3	3.3	0
General practitioner	26.0	100.0	53.8	41.0	2.6	2.6	0
Medical	33.3	100.0	34.0	52.0	8.0	6.0	0
Surgical	26.7	100.0	80.0	20.0	0	0	0
Other	14.0	100.0	80.9	14.3	0	4.8	0

Source: Queens Medicaid Provider Profile printout, 6 December 1978, PIPGC351.

TABLE 14-15

Distribution of Queens Medicaid Beneficiaries Age 65 and Over by Age

Age in years	Beneficiaries Number	Percent
Total 65 and over	3,931	100.0%
65	251	6.4
66-69	961	24.4
70-74	1200	30.5
75-79	652	16.6
80-84	471	12.0
85+	396	10.1

Distribution of Queens Medicaid Beneficiaries Age 55-64

Age in years	Beneficiaries Number	Percent
Total 55-64	3,723	100.0%
55-59	1,908	51.2
60-64	1,815	48.8

Source: Queens Medicaid Beneficiary Profile printout PIPGC091, 18 September 1978 and PIPGC090, 18 September 1978.

TABLE 14-16

Distribution of Medicaid Beneficiaries in Queens Using Services by Specialty Type of Doctors Seen in 1976

	Beneficiaries			
	Age 65 and Over		Age 55-64	
Specialty Type	Number	Percent	Number	Percent
One category only	3,863	98.3%	3,605	98.8%
1. General or family practitioner	598	15.2	688	18.5
2. Medical specialties	1,722	43.8	1,574	42.3
3. Surgical specialties	1,136	28.9	1,014	27.2
4. Other specialties	407	10.4	329	8.8
More than one category	68	1.7	118	3.2
1. Combinations including surgical specialties	43	1.1	82	2.2
2. Other combinations	25	.6	36	1.0
Total beneficiaries using services	3,931	100.0	3,723	100.0
Using any general or family practitioner	616	15.7	710	19.0

Source: Queens Medicaid Beneficiary Profile Printout 9/11/78 PIPGC 076 and 9/13/78 PIPGC079.

TABLE 14-17

Distribution of Queens Medicaid Beneficiaries Using Services by Board Certification Status of Doctor Seen

Board Status of Doctor(s) Seen	Beneficiaries Age 65 and Over		Age 55-64	
	Number	Percent	Number	Percent
Board certified only	1136	28.9%	767	20.6
Non-board certified only	1565	39.8	2,113	56.8
Workmen's compensation only	64	1.6	729	19.5
Combinations (Board, non-board & workmen's compensation only)	1166	29.7	114	3.1
Total beneficiaries using services	3931	100.0	3,723	100.0

Source: Queens Medicaid Beneficiary Profile printout PIPGC080, 13 September 1978 and PIPGC086, 15 September 1978.

TABLE 14-18

Distribution of Medicaid Beneficiaries in Queens Using Services by Number of Different Doctors Seen

Number of doctors seen	Beneficiaries Age 65 and Over Number	Age 65 and Over Percent	Age 55-64 Number	Age 55-64 Percent
1 only	3,835	97.6%	3,552	95.4%
2	91	2.3	161	4.3
3	5	0.1	10	.3
All beneficiaries using services	3,931	100.0	3,723	100.0

Mean	1.1	1.0
Standard deviation	0.2	0.2
Minimum value	1	1
Maximum value	3	3

Source: Queens Medicaid Beneficiary Profile Printout -PIPGC076 9/11/78 and PIPGC079 9/13/78.

TABLE 14-19

Distribution of Medicaid Beneficiaries in Queens Using Services by Number of Different Procedures Received in 1976

	Beneficiaries			
	Age 65 and Over		Age 55-64	
	Number	Percent	Number	Percent
Number of different procedures				
1 only	2,668	67.8%	1,938	52.1%
2	753	19.2	867	23.3
3	299	7.6	471	12.7
4	113	2.9	246	6.6
5 - 9	98	2.5	197	5.2
10 - 14			4	0.1
Beneficiaries using services	3,931	100.0	3,723	100.0
Mean	1.5		1.0	
S.D.	1.0		0.2	
Minimum value	1		1	
Maximum value	9		3	
Variance	1.0			
C.V.	65.7			

Source: Queens Medicaid Beneficiary Profile Printout PIPGC076 Sept. 11,1978 and PIPGC079 9/13/78.

TABLE 14-20a

Distribution of Medicaid Beneficiaries 65 and Over Using Services in Queens by Number of Services Received and Aggregate Services Accounted for by Persons in Each Category

Number of Services Per Person	Beneficiaries		Aggregate Services	
	Number	Percent	Number	Percent
1-3	3,233	82.3%	4,612	45.4%
4-8	503	12.8	2,646	26.1
9-17	142	3.6	1,605	15.8
18-31	44	1.1	942	9.3
32-44	8	0.2	293	2.9
45+	1	*	48	.5
TOTAL	3,931	100.0	10,146	100.0

Mean	2.58
Minimum value	1
Maximum value	48

*Less than 0.1%

Source: Queens Medicaid Beneficiary Profile Printout PIPGC076 9/11/78

TABLE 14-20b

Distribution of Medicaid Beneficiaries Age 55-64 Using Services in Queens by Number of Services Received and Aggregate Services Accounted for by Persons in Each Category

Number of Services Per Person	Beneficiaries		Aggregate Services	
	Number	Percent	Number	Percent
1-3	2,592	69.6%	4,004	27.6%
4-8	742	19.9	4,024	27.7
9-17	292	7.9	3,436	23.7
18-31	64	1.7	1,401	9.7
32-44	17	0.5	631	4.3
45+	16	0.4	1,012	7.0
TOTAL	3,723	100.0	14,508	100.0

Mean	3.90
Minimum value	1
Maximum value	125

Source: Queens Medicaid Beneficiary Profile Printout PIPGC079, September 13, 1978.

Distribution of Services and Approved Charges for Queens Medicaid Beneficiaries Age 65 and Over by Type of Service

Type of Service	Total Services Number	Total Services Percent	Total Approved Charges Number	Total Approved Charges Percent
Total	4,437	100.0%	$48,142	100.0%
Medical	3,762	84.8	38,020	79.0
Surgical	66	1.5	3,925	8.2
Radiology	96	2.2	1,268	2.6
Laboratory	513	11.5	4,929	10.2

Total approved charges per beneficiary $12.25
Number of beneficiaries N=3,931

Distribution of Services and Approved Charges for Queens Medicaid Beneficiaries Age 55-64 by Type of Service

Type of Service	Total Services Number	Total Services Percent	Total Approved Charges Number	Total Approved Charges Percent
Total	6,516	100.0%	$69,710	100.0%
Medical	5,304	81.4	53,614	76.9
Surgical	87	1.3	4,331	6.2
Radiology	102	1.6	1,371	2.0
Laboratory	1,023	15.7	10,394	14.9

Total approved charges per Medicaid beneficiary $18.72

Number of beneficiaries N=3,723

Source: Queens Medicaid Beneficiary Profile printout PIPGC080, 13 September 1978 and PIPGC079, 13 September 1978.

TABLE 14-22

Distribution of Queens Medicaid Beneficiaries by Approved Charges per Beneficiary

Approved Charge per Beneficiary (dollars)	Age 65 and Over Beneficiaries Number	Percent	Age 55-64 Beneficiaries Number	Percent
Under $25	2,547	64.8%	2,007	53.9%
25-49	718	18.2	836	22.5
50-74	282	7.2	348	9.3
75-99	148	3.7	190	5.1
100-199	180	4.6	235	6.3
200-299	40	1.0	49	1.3
300-399	7	0.2	27	0.7
400-499	5	0.1	17	0.5
500-599	2	0.1	3	0.1
600-699	2	0.1	3	0.1
			5	0.1
			3	0.1
Total	3,931	100.0	3,723	100.0

Source: Queens Medicaid Beneficiary Profile Printout, 11 September 1978 PIPGC076 and PIPGC086, 15 September 1978.

Distribution of Aggregate Approved Charges for Queens Medicaid Beneficiaries Age 65 and over By Level of Approved Charges

Approved Charges per Beneficiary	Approved Charges Amount	Approved Charges Percent	Cumulative Percent
Total	$123,893	100.0%	100.0%
Under $25	28,372	22.9	22.9
25-49	25,110	20.3	43.2
50-74	16,717	13.5	56.7
75-99	12,678	10.2	66.9
100-199	24,660	19.9	86.8
200-299	9,489	7.7	94.5
300-399	2,375	1.9	96.4
400-499	2,170	1.7	98.1
500-599	1,101	0.9	99.0
600-699	1,221	1.0	100.0

Distribution of Aggregate Approved Charges for Queens Medicaid Beneficiaries Age 55-64 By Level of Approved Charges

Approved Charges per Beneficiary (dollars)	Approved Charges Amount	Approved Charges Percent	Cumulative Percent
Total	$164,524	100.0%	100.0%
Under $25	27,902	17.0	17.0
25-49	29,132	17.7	34.7
50-74	20,960	12.7	47.4
75-99	16,264	9.8	57.2
100-199	31,311	19.0	76.2
200-299	11,805	7.2	83.4
300-399	9,047	5.5	88.9
400-499	7,653	4.7	93.6
500-599	1,601	1.0	94.6
600-699	1,921	1.2	95.8
700-799	3,758	2.3	98.1
1000-1999	3,170	1.9	100.0

Source: Queens Medicaid Beneficiary Profile printout, 11 September 1978, PIPGCO 86

Distribution of Medical Services for Queens Medicaid Beneficiaries by Level of Approved Charge

Approved Charge (dollars)	Age 65 and Over		Age 55-64	
	Percent of Total		Percent of Total	
	Services	Amount Approved	Services	Amount Approved
Under $10	71.4%	42.4%	65.3%	47.6%
10-14	4.8	5.5	1.5	1.8
15-19	17.3	26.1	31.9	47.3
20-24	2.4	5.0	1.0	2.0
25-29	.8	2.1	0.2	0.4
30-34	.6	1.9	-	-
35-39	.4	1.4	*	0.1
40-49	.5	2.4	*	0.1
50-74	1.2	7.1	0.1	0.5
75-99	.3	2.5	*	0.2
100-199	.2	2.4	-	-
200-299	.1	1.2	-	-
Total	100.0	100.0	100.0	100.0

Total number of services N = 3,762
Total amount approved $38,020

* Less than 0.1%

Total number of services N = 5,304
Total amount approved $53,614

Source: Queens Medicaid Beneficiary Profile Printout, 11 September 1978, PIPGC076 and 13 September 1978, PIPGC079.

TABLE 14-25

Distribution of Surgical Services for Queens Medicaid Beneficiaries by Level of Approved Charge

Approved Charge (dollars)	Age 65 and Over Percent of Total Services	Age 65 and Over Percent of Total Amount Approved	Age 55-64 Percent of Total Services	Age 55-64 Percent of Total Amount Approved
Under $10	1.4 %	10.7%	56.3%	7.5%
10-19	5.5	22.7	4.6	1.1
20-29	8.1	22.7	3.4	1.4
30-39	4.1	7.6	1.2	0.8
40-49	2.4	3.0	4.6	4.3
50-74	6.1	6.1	12.6	14.3
75-99	2.1	1.5	2.3	4.0
100-199	58.1	22.7	5.8	15.6
200-299	12.2	3.0	5.8	28.8
300-399	-	-	3.4	22.2
400-999	-	-	-	-
1,000+	-	-	-	-
Total Total	100.0	100.0	100.0	100.0

Total number of services N = 66

Total approved $3,925

Total number of services N = 87

Total amount approved $4,331

Source: Medicaid Beneficiary Profile Printout, 11 September 1978 PIPGC076 and 13, September 1978, PIPGC079.

TABLE 14-26

Distribution of Radiology Services for Queens Medicaid Beneficiaries by Level of Approved Charge

Approved Charge (dollars)	Age 65 and Over		Age 55-64	
	Percent of Total		Percent of Total	
	Services	Amount Approved	Services	Amount Approved
Under $10	33.4%	14.7%	24.5%	14.0%
10-19	44.8	44.0	56.9	54.0
20-29	15.6	25.2	16.7	27.6
30-39	5.2	12.9	1.9	4.4
40-49	1.0	3.2	-	-
Total	100.0	100.0	100.0	100.0

Total number of services	N = 96	Total number of services	N = 102
Total amount approved	$1,268	Total amount approved	$1,371

Source: Queens Medicaid Beneficiary Profile Printout, 11 September 1978, PIPGC076 and 13 September 1978, PIPGC079.

TABLE 14-27

Distribution of Laboratory Services for Queens Medicaid Beneficiaries by Level of Approved Charge

Approved Charge (dollars)	Age 65 and Over		Age 55-64	
	Percent of Total		Percent of Total	
	Services	Amount Approved	Services	Amount Approved
Under $10	36.8%	8.4%	30.3%	4.5%
$10-19	63.0	91.0	69.7	95.5
20-29	-	-	-	-
30-39	0.2	0.6	-	-
40-49	-	-	-	-
Total	100.0	100.0	100.0	100.0

Total number of services N = 513

Total amount approved $4,929

Total number of services N = 1,023

Total amount approved $10,394

Source: Queens Medicaid Beneficiary Profile Printout, 11 September 1978 PIPGC076 and 12 September 1978, PIPGC79.

TABLE 14-28

Use of Selected Procedures by Queens Medicare and Medicaid Beneficiaries

Procedure and Type		User Rate per 100			Percent of Beneficiaries Who Used Procedure Only Once		
BHI Code	Procedure Description	Medicare Queens	Medicaid 65+	Medicaid 55-64	Medicare Queens	Medicaid 65+	Medicaid 55-64
I	Medical procedures						
1.	Initial office visit-routine, new patient	-	23.4	20.9	-	62.0%	54.4%
2.	Office visit-comprehensive	12.5	14.8	26.1	89.0%	73.4	63.0
4.	Follow up office visit-routine	80.4	9.9	13.2	19.1	59.8	50.1
5.	Day home visit, initial or subsequent	8.9	0.1	*	50.6	33.3	-
7.	Routine initial hospital visit	8.7	0.6	0.4	80.6	88.0	73.3
8.	Follow-up hospital visit	16.6	2.9	0.4	3.5	76.3	53.3
II	Surgical procedures						
9.	Biopsy of skin	-	*	*	-	100.0	100.0
10.	Radical mastectomy	0.1	-	-	100.0	-	-
11.	Multiple pinning femur	0.7	0.1	*	100.0	100.0	100.0
12.	Arthrocentesis	0.2	*	0.5	25.0	100.0	70.6
13.	Puncture of bursa	0.6	*	0.2	72.7	-	37.5
14.	Bronchoscopy	-	-	0.1	-	-	100.0
15.	Thoracentesis	0.1	-	-	-	-	-
16.	Right heart catheterization	0.1	-	-	100.0	-	-
17.	Inserting pacemaker	0.2	-	-	75.0	-	-
19.	Colectomy	0.3	0.1	-	66.7	100.0	-
20.	Appendectomy	-	*	*	-	100.0	100.0
21.	Proctosigmoidoscopy	2.9	0.2	0.3	94.6	100.0	100.0

TABLE 14-28 (continued)

Use of Selected Procedures by Queens Medicare and Medicaid Beneficiaries

Procedure and Type		User Rate per 100			Percent of Beneficiaries Who Used Procedure Only Once		
BHI Code	Procedure Description	Medicare Queens	Medicaid 65+	Medicaid 55-64	Medicare Queens	Medicaid 65+	Medicaid 55-64
22.	Hemorrhoidectomy	0.1	-	-	100.0	-	-
23.	Cholecystectomy	0.2	0.1	0.2	100.0	100.0%	100.0%
24.	Hernioplasty	0.5	0.1	0.2	77.7	100.0	85.7
25.	Cystoscopy	1.2	*	*	81.8	100.0	100.0
26.	Dilation of urethra	1.2	*	*	40.9	100.0	100.0
27.	Prostatectomy	0.4	-	-	87.5	-	-
28.	Resection of prostat	0.4	0.1	0.1	71.5	100.0	100.0
29.	Hysterectomy	0.2	0.1	-	66.7	100.0	-
30.	Lens extraction	0.7	0.9	0.4	78.6	100.0	92.9
III	Radiological procedures						
31.	Radiology-Chest	15.3	1.0	0.6	80.1	92.7	90.9
32.	Radiology-Lumbar	0.3	0.7	1.2	100.0	96 3	97 8
33.	Radiology-Hip	0.1	0.2	0.1	100.0	100.0	80.0
34.	Radiology-Upper GI	2.0	0.1	0.1	97.4	100.0	100.0
35.	Radiology-Colon	1.4	0.2	0.4	96.2	100.0	100.0
36.	Radiation therapy-low volt	0.2	-	-	-	-	-

TABLE 14-28 (continued)

Use of Selected Procedures by Queens Medicare and Medicaid Beneficiaries

Procedure and Type		User Rate per 100 a/			Percent of Beneficiaries Who Used Procedure Only Once		
	BHI Code	Medicare Queens	Medicaid 65+	Medicaid 55-64	Medicare Queens	Medicaid 65+	Medicaid 55-64
IV	Laboratory procedures						
	38. Hemoglobin	3.1	*	0.1	62.7%	100.0%	100.0%
	39. White cell count	0.2	-	-	66.7	-	-
	40. Complete blood count	6.8	0.5	0.5	71.3	90.0	85.0
	41. Cholesterol	2.0	*	-	68.4	100.0	-
	42. Hematocrit	1.2	0.2	0.2	69.6	87.5	66.7
	43. Prothrombin time	0.9	-	-	27.8	-	-
	44. Sedimentation rate	4.0	0.3	0.2	80.5	90.0	100.0
	45. Blood glucose	6.8	0.1	*	50.4	25.0	100.0
	46. Blood urea nitrogen	1.7	0.1	-	84.4	100.0	-
	47. Pap smear	1.7	*	0.1	84.8	100.0	100.0
	48. Urinalysis	21.6	1.2	2.8	63.0	40.4	43.7
	49. EKG	27.7	7.6	15.5	68.8	85.7	82.0
	50. EEG	0.6	-	-	100.0	-	-

*Less than 0.1%

a/ Based on all Queens beneficiaries using services: Medicare, N=1,902
Medicaid age 65+, N=3,931
Medicaid age 55-64, N=3,723

Source: Beneficiary Profile Printouts: Medicare PIPGC007 August 25-1978 and Medicaid PIPGC078 and 080
September 11 and 13 1978

PART D

SUMMARY, POLICY IMPLICATIONS AND RECOMMENDATIONS

CHAPTER 15

METHODOLOGICAL PROBLEMS

Chapter 15 reviews the methodological issues relating to the CUNY study of the impact of carrier practices on fees. Limitations resulting from single-year data and from the necessity of using incomplete data based on non-standard definitions are discussed. Difficulties inherent in using secondary data sources, and the problems of statistical inference when non-normal data distributions are involved and of creating unitary measures of carrier fees are presented. Other considerations involved in the selection of appropriate fee measures are also presented.

Introduction

A presentation of methodological problems relating to the study of carrier practices and their influence on Medicare fee levels is an essential part of this report. It permits readers concerned with the Medicare program to assess risks in using results as the basis for policy decisions. Data limitations discussed have a bearing on decisions to improve regular data collection and compilation activities of HCFA. The mounting of further research efforts should take into account data problems encountered in this study and the need to acquire different data sources on factors that enter into complex relationships.

Included in this review of methodological problems are limitations of single-year data in a dynamic behavior model, the importance and difficulties of securing data based on standard definitions, affecting both national analysis and research within individual carriers, and the task of selecting appropriate measures of fee levels. The term "carrier discretionary practices", a major aspect of our research, refers to a large set of administrative practices, but only for some of them is information available. The problems include absence of objective quantitative data on some practices that are reported and omission of certain important practices from consideration. Also discussed are limitations of secondary data sources and of the files on socioeconomic variables, including absence of age-specific information on some variables and incomplete measures of doctor supply. Specific problems of using Medicaid claims data are reviewed. Finally, statistical inference involves such problems as dealing with non-normal data and creating unitary measures of fees for an area.

Dynamic Model of Physician Behavior vs. Single-period Data

In a dynamic model of physician behavior in the Medicare market, it is assumed that carrier practices in year t result in various experiences of physicians in connection with their Medicare claims and influence their fees in year t + m. For effects to be grossly evident, time would have to elapse. Even though change in physician behavior is a continuous process, and a practice such as claims denial might influence fee decisions between one month and the next, claims submission, administrative actions, and payment are spread out over time and data are not conveniently organized to reveal small incremental differences. Furthermore, some practices are related to the start of a new fee screen year and to the completion of a given calendar year; hence factors of interest would reveal their effects in data for a sequence of 12-month periods. Unfortunately, to a large extent only single-year data were available, and therefore true causalities would be understated.

Relations between contextual (socioeconomic) factors and the Medicare market are also assumed to fit a dynamic model. Such factors, referred to as ARF variables because the general repository for those available on a county basis is the DHEW Area Resource File, are assumed to have impact over time such that the values of demand and supply-related factors in year t would influence fees and assignment rates in year t + m. Again, data over more than one year are needed to test the relationships.

Effects of both carrier practice and ARF variables on fees might be expected to show a distributed lag. However, the rapid changes in physician fees in the U.S. suggest that major effects do not require much time; the era of slow-moving custom-bound physician fees has disappeared.

A dynamic model also includes a phase in which physician fee behavior in a carrier's administrative territory in time period t is assumed to be conducive to carrier practice changes in period t + m. Again, for testing this type of impact, mul-

tiple-year data are more appropriate than single-year data.

Discretionary Practices

Discretionary practices by definition are carrier practices which are not regulated by the Carriers Manual or by IMs (Identical Memoranda) or ILs (Intermediary Letters.) The fact that IM 75-53, our source for the carrier differences, was filled out by regional offices made a form of "interviewer bias" possible. Moreover, partly because of the nature of the practices themselves and partly because of the phrasing of the questions, certain replies were difficult to quantify.

While a number of important practices not mandated by Medicare regulations were covered in IM 75-53, others of potential significance for fee levels were not, including delineation of localities, medical procedure terminology, coding and claims processing, program logic, services not medically necessary, and pre- and post-operative care.

Delineation of localities results in creation of sets of physicians whose customary charges are arrayed in the process of developing prevailings. Since choice of boundaries results in exclusion or inclusion of doctors with practices in certain income classes, those with competition from teaching hospitals, etc., fees may be affected. Detailed information on locality designation was lacking, but it was possible to show that population per locality varied among carriers and that the variation did not accord with overall population.

Terminology, as a discretionary practice, is a source of problems for Medicare: fee escalation; inequity among practitioners and patients owing to varying codes for the same procedure or varying definitions for a given numerical code; lag in adapting reimbursement to changes in medical technology, style of practice, and content of health care; and costs of changeover to new systems of terminology.

Medical procedure terminology was a distinctly minor element in IM 75-53 (April 1975). (Section IV queried about refinement in the coding structure and the number of changes in procedure codes). A consequence of procedure code variation encoun-

tered in CUNY's micro study was that certain codes were not comparable between carriers, and others were only approximately comparable. Terminology was later given special attention by HCFA in section V of IM 77-76 (October 1977). HCFA also issued an interpretation of guidelines for evaluating carriers' proposals to change terminology systems. Responses to IM 77-76 will improve the available information on carrier practices as to selection of a procedure code system and idiosyncrasies in using it.

Current information on carrier practices does not include coding and claims processing administration - who codes, what training is given, what guidelines are applied, and what edit steps are taken. Validity of coding affects classification of procedures, place of service, and provider specialty. Stages at which error arises, error type and the effect of error on payment are among the aspects of possible concern to HCFA.

Program logic is a discretionary practice about whose effects on efficiency, payment levels, etc. little is known. While HCFA attempted to standardize this with the Model B system, it is not in universal use and where used contains options that retain a discretionary element.

The determination of services that are not medically necessary at first seems to be exhaustively covered by Medicare regulations, which identify many items and detail many circumstances defining covered and noncovered services. Carriers may vary as to services actually excluded because of administrative rules, specific parameters, and customs of individual physicians and patients. Because of market changes, parameters may have to be modified over time to carry out the intent expressed in a list of excluded items. A related area is exclusion of certain units of covered items. Through rules regarding pre- and post-operative care, carriers can prevent physicians from imposing extra charges for services they would provide anyway. Table 16-1 shows GHI and BC/BS-GNY rules and GHI limits on maximum permitted repetitions of arthrocentesis and other

TABLE 15-1

Number of Days That Constitute the After-Care Period for Sixteen Leading Procedures (GHI and BC/BS - GNY) and Maximum Permitted Repetitions in a One-Month and Three-Month Period (GHI only)

Procedure	Code GHI	Code BC/BS-GNY	GHI: Number of days that constitute the after-care period	GHI: Number of times that a procedure can be performed without medical review — In a one-month period	GHI: Number of times that a procedure can be performed without medical review — In a three-month period	BC/BS-GNY: After-care (Weeks)
1. Biopsy-Skin	0171	0171	---	2	4	---
2. Radical Mastectomy	0470	0470	21	1	1	3
3. Multiple Pinning-Femur	0883	0868	60	1	1	8
4. Arthrocentesis	1046	1046	1	4	10	---
5. Puncture of Bursa	1413	1413	1	---	---	---
6. Bronchoscopy	2111	2111	-0-	1	2	---
7. Thoracentesis	2183	2183	7	2	5	---
8. Right Heart Catheterization	2331	2331	-0-	1	1	---
9. Inserting Pacemaker	2335	2308	28	1	1	---
10. Blood Transfusion	----	----	-0-	---	---	---
11. Colectomy	3178	3178	42	1	1	6
12. Appendectomy	3261	3261	21	1	1	3
13. Proctosigmoidoscopy	3311	3311	---	3	4	---

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TABLE 15-1 (continued)

Number of Days That Constitute the After-Care Period For Sixteen Leading Procedures (GHI and BC/BS - GNY) and Maximum Permitted Repetitions in a One-Month and Three-Month Period (GHI only)

Procedure	Code GHI	Code BC/BS-GNY	GHI: Number of days that constitute the after-care period	GHI: Number of times that a procedure can be performed without medical review: In a one-month period	GHI: Number of times that a procedure can be performed without medical review: In a three-month period	BC/BS-GNY After-care (Weeks)
14. Hemorrhoidectomy	3375	3380	14	1	1	2
15. Cholecystectomy	3515	3515	28	1	1	4
16. Hernioplasty	3631	3631	28	1	1	4

Source: GHI and BC/BS - GNY, Administrative instructions

procedures. "Ranging dates" in Blue Shield limit inhospital medical care to one visit per day unless there is documentation to do otherwise. Service on the date of surgery, in the pre-operative period (the 3 days preceding the surgery day), and in the post-operative period, whose length is defined separately for different procedures, is not recognized as reimbursable. However, this rule excludes pre-operative care only at the same place that the surgery was performed, and for both "pre-" and "post-" periods, the exclusion applies only to routine care related to the surgery. If two procedures are performed and the second takes place within the aftercare period of the first, both pre-operative periods are observed, but fewer days are excluded.

Selection of an Appropriate Fee Measure

One of the basic methodological problems in the CUNY study was to find a measure of fees that would reflect both conditions in the market for physician services and Medicare program costs. The available fee statistics included 50th percentile and adjusted prevailings by procedure for FSY 1976 and 1977. Also, SMI expenditures, which were available for 1972 and 1975, were a possible indicator. None of these measures completely satisfied the needs of the analysis.

The 50th percentiles provide a measure of central tendency. They are medians of charges used by carriers to develop the prevailing charges, but since distributions tend to be asymmetrical, 50th percentile fees are not an adequate basis for estimating the total expense on a given procedure by HCFA or beneficiaries. HCFA expense is related to the reasonable charge.[1/] For unassigned cases, the beneficiary burden is the deductible plus the difference between submitted charge and reasonable charge. For assigned claims, the burden is the deductible plus twenty percent of the reasonable charge. The provider's income for unassigned claims is the submitted charge, and for assigned claims, the reasonable charge. To assess cost to HCFA and beneficiaries and provider income, information is needed on both submitted and reasonable charges. The 50th percentile represents only the former.

1/ 80% of it after allowing for the deductible.

The prevailing charge is the administrative upper bound of what the program will pay for a given procedure. As such it is not a good estimator of either the cost of the service to HCFA and beneficiaries, or income to the provider.

The SMI expenditure for a given period represents total HCFA outlays for beneficiaries within a given area. It does not provide information on services used. However, when divided by number of enrollees it allows a comparison of HCFA costs among carriers.

The fee index, developed by CUNY to answer the need for a measure that could make effective use of the available information on all procedures,combines information on procedure use with price-level information. The carrier index is the average of ratios of carrier 50th percentile charges (or prevailing charges) to the national mean charge by procedure. When it is unweighted it represents the overall carrier cost level in relation to the country as a whole; when it is weighted by frequency of use it provides a measure of relative expenditure, standardized because it is based on 50 leading procedures. In this respect it differs from SMI expense per enrollee, which is affected by prices and utilization for all Medicare Part B procedures.

Standard definitions

The dynamic model discussed earlier assumes revenue-maximizing as the goal of physician behavior. Varied empirical support for this assumption is found in the trend of fee increases, enhanced service descriptions by doctors in California and other states in response to procedure code opportunities, the evident sensitivity of surgical performance rates to economic incentives, etc. In conduct of a practice, individual physicians are assumed to be motivated to adjust fee behavior, assignment decisions, service mix, place of service, service description, use of aides, etc. so that the joint effect of actions regarding all these features of a

practice on aggregate net revenue would be optimal. Only some of these modes of action have been accessible to study within the CUNY project data sets. But it is evident that study of fee behavior must have uniform service descriptions, for otherwise the effect of changing services reported for payment on fees would be hidden. More generally, comparison between areas requires that all factors except those under consideration be held constant. Therefore, it is highly desirable that all data used in the analysis be based on common definitions.

Efforts to assure code comparability for medical procedures for which fees are reported by carriers to HCFA in order to conduct simulations on GHI and Blue data in the New York area revealed that this condition is not met. Definitions under which frequencies are accumulated to satisfy carrier parameters for customary and prevailing charges, and under which payments are authorized, are far from homogeneous. The extent to which pre-and post-operative visits are included in a reported surgical service is limited by parameters for visits related to a given diagnosis or procedure code (See Table 15-1 referred to earlier). These parameters are chosen by the carrier. Whether a doctor or staff member actually administered a given service may vary within the practice of a given physician, within an area, and between carriers. A related issue is whether laboratories are separated from physician suppliers of diagnostic services. One carrier uses a single code for both limited and extensive procedures of the same general nature and another breaks them up or else makes the division according to initial and subsequent care rather than extent. Similarly, one carrier may encode in- and out-of-hospital locations in the same numerical code whereas another does not.

Another comparability problem is that each carrier has its own internal administrative action codes reflecting its own organization's task distribution and rules, which must be understood in order to be sure that all claims satisfying desired basic definitions are identified. Within each carrier, special procedures such as radio-

logy, pathology, anesthesia, and psychiatry are handled in different ways and exact mapping and matching must be carried out. In addition, types and places of services are not subsumed in an exhaustive classification structure within each carrier and only partial matching between carriers is found. No identification for telephone service is provided. Many of the special modifiers recognized by the AMA's Current Procedure Terminology (CPT) do not exist in carrier procedure coding. Often, therefore, there is ambiguity as to what physicians do clinically, how they describe it, and how carriers classify this information.

Other classification problems related to procedures involve: charges submitted when two distinct procedures are part of the same care or therapeutic plan; lumping of radiotherapy with diagnostic radiology; anesthesia administered by the operating surgeon; lack of identification of team surgery; and the duration of psychotherapeutic visits. Differences in classification schemes may be revealed by special flag positions in the file, provider identification, and other data elements besides the procedure code itself. Date of service, which would be a necessary element in interpreting care for a total episode or condition, is differently expressed for different carriers and is not keyed to a given condition or hospital admission.

Another definition problem concerns the relation of localities and counties. Localities are not always contiguous geographical units. Often carriers divide their area into "urban" and "rural" localities which cut across counties. ARF variables and most other socioeconomic files are not available for geographical units smaller than a county. For fee analysis on a locality basis, a locality conversion table was created in which each county was assigned to only one locality, usually the one having the largest proportion of the county population. This produces an unavoidable distortion of the data in some instances.

There is apparent homogeneity of concepts in carrier data on claims investigation, reduction, and denial rates, processing time, backlog of unprocessed claims, and other administrative indicators, but variability in meaning can arise from sever-

al sources. Inter-areal differences in submission of inflated or invalid claims could affect interpretation of denial, reduction, and investigation rates. Carrier parameters, if any, limiting services that may be submitted in relation to a given procedure or diagnosis can be "loose" or "tight". Standards for denial of claims as not medically necessary, and the specific parameters used, may vary. The details of each carrier's practices and the behavior of the physicians in the area constitute intervening, reinforcing, or adjustment variables that are implicated in the process whereby a high denial rate, for example, in year t might lead to a reduced claims submission rate in t + m. Again, as mentioned earlier in connection with fee and ARF data, the need for multiple-year data to test such dynamic relations is evident.

Secondary data

The main data sources for CUNY's study of Physician Reimbursement under Medicare and Medicaid were:

a) Materials supplied by HCFA on prevailing charges, carrier workload, claims processing time, and SMI expenditures and enrollment.

b) Tapes from Blue Cross/Blue Shield-GNY, and GHI-New York containing data used to determine reasonable charges.

c) Tapes from New York City Medicaid.

d) The Area Resource File.

e) The American Medical Association

With the exception of items from the last two sources, these materials were not compiled for research purposes but are either administrative records or records created as a part of the reimbursement process. Individual carrier responses to HCFA's request for data depended on their interpretation of the request as well as the availability of the required information. For example, in responding to HCFA's request for 50th percentiles and frequencies of fifty selected procedures, carriers used their own procedure terminology, which does not guarantee a one-to-one match with the definitions of the procedures used by HCFA. Furthermore, carriers do not maintain

records on procedure frequencies. With the cooperation of HCFA, CUNY was able to correct some errors in the data. Data interpretation often depends on close knowledge of file construction. In working intensively with claims and provider data from selected carriers in our micro study, it was difficult to locate individuals who had intimate knowledge of the file content, which depends on or is integrated with several administrative operations, and could interpret how the file is constructed and used.

National analysis of fee determination and the effect of carrier behavior requires data that are available on, or can be aggregated to, a carrier level. The ARF does not yield exactly appropriate information. It does not have age-specific figures by county on personal income, years of schooling, an inventory of measures of health status (mortality alone being shown by 10-year age groups for age 65+), or utilization of private physicians' services or other personal health care. Quality variations or limitations of the measures that are available are also a block to precise testing of hypotheses. For example, implications of years of schooling for health-care demand might be different depending on school expenditure per capita and quality of educational administration. A definitive measure of net doctor supply on a county basis is lacking. Data on office aides, hours of work, etc., which would be helpful in interpreting how many patient services a given number of physicians can deliver, are not available. Hospital-based physicians are lumped together with dentists. Additional types of data are needed to translate the presence of medical schools and teaching hospitals in a geographic area into capacity to provide patient care.

Dating of information is another problem in the study of the relation of health care market factors to fees. As certain major ARF items are derived from the census, one has the choice of using inter-censal estimates, which are somewhat unreliable for small areas, or using census-year values, which may change over time and not be applicable to the fee year.

New York City Medicaid claims data were used to analyze provider and behavior profiles as reported in Chapter 11. This data set has several limitations. There were no checks on data reliability and completeness. Diagnostic information and place of service was absent. Medicaid did not have a reliable up-to-date computer file on physician characteristics, especially board certification. For patients over 65, there was no record of linkage with Medicare payment status. There was no linkage of physician's Medicaid revenue with Medicare revenue, charges and assignment rate. To carry out comparisons with Medicare, claims information was supplemented with manual "look-up" of physician characteristics in the New York State Medical Directory.

Statistical Inference

Another class of methodological problems concerns statistical inference. Using carrier data on discretionary practices limits the number of observations to 60 or less and thus limits degrees of freedom. Using county data does not avoid this effect because in fact counties or localities are not independent observations so far as carrierwide discretionary practices are concerned. This limited the number of variables that could be used to explain fees. While for multistate carriers each state or territory was considered as an independent observation, some homogeneity within one large corporate organization might be expected and this might introduce a bias. However, there is variability within each commercial plan. For example, Equitable-Tennessee mean processing time is half that of Equitable-New Mexico, and the claims reduction rate for Travelers in Mississippi, which has a high assignment rate, is 2/3 of that of Travelers-Minnesota, where the assignment rate is low. Blue plans have less unified corporate identity than subsidiaries of commercial companies and their rates of administrative performance also show much variation.

Another statistical problem is that the distributions of fees used are not normal, although ordinary regression techniques assume normal distributions. Peculiarities of the actual distributions relate to skewness and to extreme values. A study by Mr. Irvin Robinson of the HCFA Division of Contractor Operations revealed that "highest" or "lowest" specialist and general practitioner charges for a given procedure in the nation were the result of reporting error in 66% of 208 charges studied. (Letter to CUNY Dec. 1, 1977). Other extreme values may be based on unusual market situations. Both error and aberrant situations are expected in large data sets. Distortion can be avoided by deletion of outliers.

Finding unitary measures of carrier behavior or characteristics was an essential task in carrying out inter-carrier comparisons. For fee levels, the problem of having to deal with 50 different leading Medicare procedures was solved by using a mean carrier ratio to the national mean, for each carrier, based on the 50 procedures. This gave more representative measures than fees of selected individual procedures. Coefficients of variation, by carrier, of 50th percentile and adjusted prevailing fees for the 50 procedures show that carriers do differ in the degree of dispersion of ratios based on the various procedure prices.

Interpretation of results of regression analysis may be hampered by the fact that variables are measured in different magnitudes. Use of transformed or standardized data avoids this problem. The use of an index for fees led directly to transforming other variables as well.[1/] All the independent variables included in the regression analysis are expressed in terms of ratios to the national mean value.

1/ Even before transformation, all independent variables, except for discretionary practices, were expressed in scale-free units such as MDs in general hospitals as a percent of all MDs.

CHAPTER 16

SUMMARY OF THE CUNY STUDY

Chapter 16 summarizes the results of the CUNY study. The research covered physician fee levels under Medicare, carrier practices, and patient and physician behavior under Medicare. Utilization and workload under Medicaid was studied for comparison. Factors in the market for medical service to the elderly that are independent of Medicare rules and administration were taken into account. Implications for reimbursement policy are considered.

It is an obligation to present a summary of the principal features, findings, and implications of a lengthy and complex report such as this one. In two and one-half years of research, we have turned to national and local data sources, have considered factors exterior to and interior to Medicare, and have been interested in the behavior of carriers, patients, and physicians, and the link between Medicare and Medicaid. The conduct of the research has provided full exposure to the truly enormous difficulty of using a market-oriented payment mechanism to assure health care to millions of older Americans. It is surely easier to suggest modifications to improve the workings of the regulatory system than to be sanguine about their effects. But some of these suggestions could be the basis for evolution to a qualitatively different approach to the task of reimbursing physicians.

One of the central concepts used in the research is that the impact of general market forces and general program rules on individuals in the Medicare market is bound to be variable. Effective program design takes into account the types of circumstances that predominate and those that cause unintended results to occur. Hence, research that adds to disaggregated knowledge is desirable.

Part A - Overview of Economics of Aging and the Medicare Market

Economic Status of the Elderly

The delineation of the economic resources and opportunities of the elderly to whom Medicare, a health care financing program, is addressed helps explain why reasonable charges, assignment, and adequate supply of health care resources are important. This information, therefore, is basic to appraising the effectiveness of Medicare.

Chapter 2 contains an overview of the roles occupied by the elderly, their income levels and the incidence of poverty, the factors involved in receipt of public and private retirement income, earning power, and policy issues regarding the income and earning rights and opportunities of the elderly. Health status

and use of service influence economic status as well as being influenced by it.

It is striking that the elderly population contains much diversity as to rights to income, economic capacity, activity level, and autonomy. The range is from dwellers in institutions dependent on others for daily care to fully employed persons in good health, from those receiving public assistance to supplement small social security benefits to those with private investments as well as industrial pensions to draw on as retirees. The record also shows improvement in social planning for retirement income. Regional, race, sex, and occupational differences pervade statistics on all these matters. The Medicare market is consequently a heterogeneous and changing one in terms of ability to pay, especially if the varied capacity of the elderly to arrange for personal care to support clinical management of illness is taken into account. Demographic diversity in terms of survivorship and nearness of children interacts with the economic factors mentioned to determine coping resources. Despite diversity, however, the bias is still toward reduced circumstances and competition between medical needs and other needs such as nutrition and shelter. The need to assure physician service at affordable costs is brought out by scrutiny of the economic landscape of the aged. The pricing process under Medicare, its interrelation with assignment decisions that limit patient outlay, and its power to evoke and sustain adequate supply are to be viewed as essential elements in governmental provision for aging. Growth of life expectancy is bound to keep up our national interest in an effective Medicare program. Here, too, economic factors must be considered as they interact with the program, and this matter forms the subject of Chapter 3.

Medicare and the Market

Medicare is limited in its effectiveness because a structure of rules is applied to a market in which there are many variations in circumstances and in which providers can alter their behavior to thwart the effect of regula-

tions. For example, procedures vary in frequency owing to expected incidence in an aged population. In establishing the minimum number of claims needed to form customaries, some procedures with low incidence would need low parameters while other more commonly performed ones would not. A uniform high parameter thus places certain physicians outside the reasonable charge process and the effect on fees could be significant. The market for Medicare services is enormously variable with respect to the overlap with the market for services to the non-aged. This affects opportunity for claims data merger in the RCP. Additional variability is caused by the carrier's relative position in the health insurance business in a given state.

Another problem is related to general inflation, to which health care contributes and by which it is affected. The reasonable charge process as the central feature of the price-setting and cost-controlling activity of Medicare has been placed in shadow by the economic index. 1/ The need to control inflation is proving to be incompatible with the retention of the "naturalistic" market as the payment basis.

Evaluating the performance of individual carriers is complex, for they are engaged in a trade-off between low administrative cost and low overall claims cost, since more intensive carrier claims control efforts may raise handling costs per claim. Additionally, differences in the degree of emphasis that is placed on accessibility to enrollees and investment in relations with physicians call attention to another trade-off: beneficiary and provider satisfaction vs. administrative costs.

Medicare is weak in its control of quality of health care and has not really adopted this as a goal. Specialist designation is at carrier discretion. The incentive to avoid hospitalizing patients is absent; at the same time neglect of a patient via insufficient medical supervision is not

1/ See Chapter 5.

monitored. Another problem is the variation in Medicare's contribution to protection against costs of needed care for beneficiaries under different circumstances. For example, if the physician of patient choice does not accept assignment, the allowed charge may be a very restricted basis of personal "health security". Acceptance of Medicaid patients is not tied into Medicare participation.

As an economic program, Medicare is operating under severe restraints while the breadth and depth of its potential responsibilities have been increasing. Monitoring and analysis of Medicare performance should take account of the difficulties and the fundamental goals in the context of the health care market. The aged have heavy health needs and contribute a large share of the ambulatory care and inpatient caseload. Alternative methods of caring for their chronic conditions should be considered in view of the extensive program expenditures these represent.

The Literature Analyzing the Market for Doctors' Services

The presentation of general economic features of the aged population in the U.S. and of some of the complexities of the relationships between Medicare program outlines and the health care market that block use of Medicare to meet needs fully is indicative of the importance of economic factors. The report turns next to reviewing the state of the art of economic analysis of the physician service market, selecting subjects most relevant to the planned research.

The empirical economic literature on the physician market can be divided according to themes of utilization, physician supply, and effects of reimbursement methods. All these are part of the context of CUNY's study of discretionary practices of carriers.

Utilization studies have examined the role of demographic and income factors, health status, price of care, access, and practice organization on use of health

care. Contact and volume variables have been used to measure utilization. Interrelations among causal factors are usually evident. Participatory payments inhibit utilization but in their absence physician willingness to provide service may become a critical limitation. Studies have shown that reimbursement method (Medicare prevailing vs. fee schedule and fee-for-service vs. capitation) had a measurable influence on services used.

The supply of physician services in the United States has been shown to be influenced by economic and non-economic factors. Choice of specialty and location develops from personal experiences (e.g., the state where training was received) against the background of demand and competition to be faced. Workload of established physicians varies by specialty, practice organization, and other factors. Programs to improve distribution of primary care face the problem of incentives including pricing under public programs that will be effective for this purpose while avoiding windfall gains.

Hence the supply and utilization issues both come together in the consideration of reimbursement. Rules for payment generate physician responses and are consequential for policy. Important studies show that fee schedules checked fee inflation under Medicare while presence and depth of insurance affected fees for physician services positively within a profit-maximizing model. Other studies have measured the extent of inter-areal variation and specialist/GP differences in prices of a given procedure within the Medicare program and have examined terminological or taxonomic inflation as a method of fee-raising that circumvents controls. Fee control under public insurance programs is not a simple task. The inventive responses of physician entrepreneurs in order to maximize net revenue in the environment of Medicare and Medicaid have been only partially incorporated into traditional pricing analysis. One of these responses is modifying assignment decisions.

The Institute of Medicine showed the importance of socioeconomic factors in

determining the level of Medicare fees (and assignment as well). It also showed that these fees influenced physician density. The reasonable charge process is deemed unsuccessful in bringing about a rational distribution of physicians. This poses a challenge to Medicare.

Part B - The National Study of Carrier Behavior and Fee Levels Under Medicare

Following review of the economic literature, the national study was designed which examined Medicare fee distributions, carrier discretionary practices in reasonable charge determination, and carrier administrative performance. These studies make up Chapters 5, 6, and 7 of this report. Variables developed from the work reported were used in analyzing the effect of carrier behavior on fee and assignment levels as described in Chapters 8 and 9.

Fee Variation

The 50th percentile fee measures under Medicare for FSY 1977 were examined by carrier, procedure, region, and type of doctor. While the 50th percentile does not take extreme values into account, it provides the best measure of central tendency of Medicare fees.

At the carrier level, analysis of 50th percentile fees reveals little if any fee variability among the different carrier types. Different carrier organizations in the same geographic area have similar fees. However, GHI-Florida has fees which are considerably higher than those of other carrier organizations in the south. While this might be attributed to GHI-Florida being a new carrier in the area and thereby taking its pricing lead from GHI-New York, which ranks in the top ten for carrier 50th percentile fee indices, probably more important is the concentration of aged population in Florida, which represents a source of demand. Fees for GHI-Florida are even higher than for GHI-New York.

On average, GPs charge lower fees for medical procedures than do specialists, probably as a means of competing with specialists who are usually able to command higher fees because consumers value their training.

However, GP fees for radiology and laboratory procedures are higher than specialist fees. The GPs may be using these fees to make up for their low fees for office visits.

The use of the economic index in determining adjusted prevailing fees has all but eliminated the 75th percentile as an upper bound of reasonable charges. The number of occurrences in which the 50th percentile exceeded the prevailing is increasing each year. Whether the analysis is at the level of the case, carrier, procedure, type of procedure, or type of doctor, overall there is an increase in such occurrences over the years analyzed. Fees for laboratory procedures are least affected by the economic index since the increase in occurrences was only 2.2 percent over the three-year period.

The 75th percentile is not only losing its function as an upper bound, but its computation - the reasonable charge process - is more costly than simply applying the economic index to prevailing fees.

Carrier Practices

Reasonable charge determination by carriers, although now limited in some important respects by the economic index within the Medicare program, currently plays a central role in determining physician revenue and beneficiary burden under different circumstances, and the potential effect of carrier variations is a matter of interest and concern for future Medicare policy. Chapter 6 analyzes carrier practices related to reasonable charge determination.

Administration of Medicare was delegated to non-governmental insurance carriers in 10 regions under supervision of DHEW. Some steps in setting reasonable charges for physicians' services are mandated in the Carriers Manual but others are not, and carriers do follow different practices in determining the charges. Information regarding carrier practices in ex-

ecuting the reasonable charge process (RCP) was derived from responses to questionnaire IM 75-53, which provided HCFA with information on compliance of carriers with mandated procedures and their discretionary practices. Items studied were selected for their potential effect on customary and prevailing fees. Subjects reviewed were: exclusions from the claims data base, use of other claims data along with Medicare data, parameters for reasonable charge determination, specialty grouping, and locality delineation choices.

Among the reasons for excluding certain submitted claims from the data base used to set Medicare reasonable charges are situations where care was rendered by non-office-based physicians, token and extreme charges, and bills for service to persons not enrolled in Medicare. In general, carriers exclude extreme charges and provider-based claims but not teaching-setting claims and charges to Medicare-ineligibles. Strict parameters for token and extreme charges are found for only one-half of carriers. Only one-fifth exclude over 15% of Medicare claims data.

Consideration of other claims along with Medicare data was the second type of discretionary practice reviewed. Aspects examined here were the source of the claims, the way in which they are used (comparison vs. merger), and the comparison of fee screens as an alternative way of relating the Medicare market to non-Medicare prices. One-half of the carriers make any use of non-Medicare claims, and of those that do, about 30% only compare and do not merge data. Under 2/5 compare other fee screens.

The important parameters in the RCP are the number of observations or values required to form a customary charge and the number of customaries required for a prevailing charge. For the period covered by IM 75-53, 4/5 of carriers required three or more charges to create a customary, but only 2/5 required more than 3 customaries to form a prevailing. (Recent mandated changes impose a uniform minimum). Seven out of 10 carriers

require a three-month minimum of base-year claims for profile development.

Another significant aspect of the reasonable charge process is the handling of the non-standard situation - the procedures to be followed for the new doctor or when a customary or prevailing cannot be set by standard methods. Three recognized situations in which data to form a customary can be lacking are: if an established physician performs a given procedure infrequently; when a physician with a previous practice moves to a community; and when a physician first starts in practice. Use of the 50th percentile as the substitute for a physician's customary charge is considered less strict than use of a "conversion factor". For the first case, about 1/4 of the carriers used the conversion factor, while 36.2% used the 50th percentile in determining the allowed charge. An additional 39.7% used the lower of submitted charge or prevailing. (The Economic Index puts a lid on the effects of a doctor's conversion factor as well as on the 50th percentile.) For the case in which an established doctor moves into a community, alternative practices of varying restrictiveness are available to substitute for the customary. Fewer than 9% of carriers use the conversion factor. Half use the lower of the submitted charge or the 50th percentile. An additional 39.7% set the fee at the lower of the submitted charge or the prevailing. For the third case, all carriers use the 50th percentile to set Medicare fees.

Carriers used varying procedures to determine prevailings when an insufficient number of customaries was available. In the absence of a standard locality prevailing, 48% used a conversion factor, considered more strict than the substitution of a carrierwide prevailing (33%) or use of individual consideration (19%).

The specialty grouping used to group physicians' customary fees in order to form prevailings also showed inter-carrier variation. Only 14% of carriers did not separate specialists at all. As a general rule, use of

few or no groupings tends to restrain fees because high-priced subgroups are placed in a common pool.

Carrier locality delineation choices, combined with population distribution, result in highly variable locality population size. Average population per locality did not correlate closely with carrier ranks by aggregate population nor with the number of localities in a carrier jurisdiction. The majority of carriers had between 1 and 5 localities. There is no clear relationship between the number of localities into which a carrier divides its territory and minimum locality size. Average population per locality varies among Medicare regions.

Adequate regulation of the RCP requires much more information regarding these and other aspects of carrier administration. Questionnaire revisions incorporated in IM 77-76 will help meet this need. Also, characteristics of the medical care market interacting with carrier practices need to be considered for their impact on fees, utilization, and costs.

Besides reasonable charge determination, carrier administration of Medicare involves claims processing, which has two aspects: efficiency in task completion and claims control. Chapter 7 is concerned with carrier performance.

Processing speed appears to be primarily of concern for administrative cost, but other dimensions of administration affect the volume of charges for which the Medicare program assumes payment responsibility. The possibility that physician fee-setting and assignment behavior in different parts of the country is influenced by rapidity of payment after a claim is submitted, likelihood of being investigated, and risk of denial or reduction makes these aspects of carrier performance take on extra importance. The statistical distributions show variation by Medicare region, carrier type, and individual carrier territory, but the variations are by no means identical for the dif-

ferent measures. For example, investigation rate is not markedly different for the carrier types (except for GHI, which had special problems), but bill size after reduction does show substantial differences. Some differences are traceable to obvious features of the local health economy (such as high prices in Alaska) but others are not. No one type of carrier organization shows uniform and clear superiority, from the regulatory point of view, in all dimensions. Contracting for service in administering Medicare payments therefore involves trade-off among desired objectives - is speed to be placed above investigation rate, for example?

To make such a decision, it is also important to consider the possible effects that all these aspects of performance have on the Medicare market. That is, aside from their interest in providing a view of the carrier differences in performance, the statistics presented in Chapter 7 provided CUNY with a set of carrier descriptor variables to be considered as a possible major influence on fees and assignment behavior. The inquiry in which this information was used is presented in Chapters 8 and 9.

The Effect of Carrier Practices on Fees and Assignment

The analysis of the effect of carrier practices in reasonable charge determination and carrier claims control and processing speed performance on Medicare fees was carried out using factor analysis and multiple regression techniques. The basic hypothesis was that several influences act to determine fees. Revenue opportunities and constraints for physicians are set by conditions of the local health care market and influence their fee decisions. Carrier practices in reasonable charge determination directly affect the points in the distributions of submitted charges that emerge as 50th percentile and prevailing fees and indirectly generate further reactions by physicians with a Medicare clientele. Carrier actions related to investigating, rejecting or reducing claims would also be noted by local physicians and would lead to adjustment of their fee decisions so as to maximize net revenue.

These influences were explored using Medicare fee data and carrier performance data (referred to earlier) provided by the Health Care Financing Administration and other information on the health economy available at the county level. Fee indices were developed for GPs, specialists, and both groups combined. Blue Shield and all other (chiefly commercial)carriers were studied separately as well as together. Part B (SMI) expenditure per enrollee was used as a measure of program cost and its determination by the types of influences mentioned above was studied.

The results showed that between 63 and 75% of the variance in fee indices for all carriers was explained by the factors represented. The explanation was somewhat better for non-Blue carriers than for the Blues. The burden of the explanation was carried by health economy variables, notably percent

urban (of the population), interpreted as a demand/supply interaction factors. But the discretionary practices of carriers did have some effect as well. The ones that had a measurable impact concerned pricing methods in absence of conditions required for the reasonable charge process. Additionally, physician fees did respond to claims investigation rate, bill reduction, and processing time, but these effects were not uniform throughout the set of fee equations.[1/] The equation for SMI expenditure per enrollee showed generally similar influences at work, but also claims denial rate was influential, with a negative effect.

The study indicates that factors in the hospital economy have complex influences on fees. It appears, for example, that involvement of physicians in hospital-based activities reduces supply in office-based care and raises fees but teaching programs serve as an alternative source of patient care and have an opposite effect. However, more needs to be known about the effects of all environmental circumstances, including carrier behavior, on physicians in different specialties.

The regulatory implication of the study is that intensive and many-sided controls would be necessary to accomplish a rather limited reduction of inter-areal fee variance while new responses by physicians to compensate for controls would be likely to pose a regulatory problem. This sets limits on the future of a payment system based on reasonable charge determination.

Both fees and assignment behavior need to be considered in assessing the effectiveness of the Medicare program in providing benefits that are meaningful to the elderly. Accepting assignment is a decision of the physician that affects beneficiary burden and access to care. Chapter 9 reports on the relationship of socioeconomic and carrier practice variables to assignment rates.

1/ There were twelve equations for all carriers and twelve each for Blue and non-Blue carriers.

The socioeconomic environment in the carrier territories was taken into account by use of variables from the Area Resource File and the AMA. The principal variables of interest were claims investigation, denial, and reduction rates, and processing speed. Additionally, discretionary practices concerned with pricing in the absence of information needed to develop reasonable charges in the standard manner were tested. Factor analysis was used for data reduction.

The results explained 45% of the variance for all carriers but more was explained when Blue and non-Blue carriers were separated. Variables from the health economy and from carrier practices entered the equations. High investigation and denial rates were associated with low assignment rates. The analysis has limitations, for the response of individual physicians to the socioeconomic environment and to certain discretionary practices is not fully explained by analysis at the carrier level and further research may require disaggregated data. Also, variables connected with hospital-based activities have complex influences on supply and demand. However, the responsiveness of the physicians to carrier aggressiveness in claims control is an important finding for Medicare administration.

Part C-The Micro Study in Nassau and Queens Counties

Part B reviewed the research findings on fees, discretionary practices, and carrier workload measures derived from CUNY's national study, and in particular the analysis of the effect of carrier behavior on fees and assignment rates. Another significant part of the research was conducted at the local level (Queens and Nassau counties) and is referred to as the micro study. This study is described in Part C.

Medicare claims for 1976 submitted to Group Health, Incorporated and Blue Cross/Blue Shield of Greater New York, carriers for Queens and Nassau respectively, were used for simulation studies of the effects on 50th and 75th percentile fee levels of varying selected discretionary practices in reasonable charge determination.[1/] By processing the same claims under identical conditions except for substitution of a single alternative assumption as to parameters or program rules, the effect of a discretionary practice is isolated from variations due to other causes.

The simulation studied the customary and prevailing fees for 14 procedures which were carefully selected to represent important features of the Medicare market as a whole. The claims data were also used to compare 1) Medicare activity, revenue and assignment behavior of providers in the two counties and 2) beneficiaries' utilization levels, types of doctors seen and other features of their behavior in the Medicare markets of Queens and Nassau.

While the data do not indicate whether doctors collect the deductible and coinsurance, they reveal many facts about experience of both physicians and patients under Medicare. In addition, the micro study also included an analysis of Queens Medicaid based on claims information for July 1974 through June 1975, matched against the Medicaid vendor file and the fee schedule published in the New York State Medical Handbook.

Socioeconomic characteristics of the two neighboring counties and salient features of the respective medical markets were extracted from Area Resource File data as background to the micro study. Nassau's population was only 71.2% of that of Queens and its aged comprised 8% of its population as compared to 12% in Queens. Per capita income was higher in Nassau and so was the number of physicians per 1,000 population. Use of clinics was similar in the

1/ Nassau claims for 1974 were used in examining the effect of carrier computer programs.

two counties. It is not surprising that Medicare reimbursement per SMI enrollee in 1975 was somewhat higher in Nassau than in Queens, since prevailing fees for the 50 most frequently performed Medicare procedures as listed in the Medicare Directory of Prevailing charges for FY 1976 were higher in Nassau. The percent by which Nassau fees exceed those in Queens is higher for general practitioners than for specialists.

A comparison of measures of carrier performance in Queens and Nassau showed that a higher percent of claims processed was denied by GHI than by BC/BS (which approximated the national denial rate), and the billed charge was reduced for 83.8% of GHI claims paid or applied toward the deductible as compared to 77.5% for BC/BS.[1/] (Again BC/BS is closer to the national level.) For both carriers, however, the proportion of claims reduced was higher for assigned than unassigned claims, which was not true at the national level.

Simulating Parameter Changes and Other Practices

To study the Medicare reasonable charge process through simulations, GHI reasonable charge programs were applied to claims for 14 selected procedures. GHI's current parameters were used as a benchmark. The effect of the following carrier discretionary practices on reasonable charges was evaluated: parameters defining extreme values, merging Medicare data with non-Medicare business, the carrier's total computer programs, locality and specialty designation, and the economic index adjustment. To test the significance of the effect of change in each practice, the Wilcoxon Matched Pairs Signed Ranks Test was performed on certain measures: the 50th percentile of the weighted distribution of customaries, the 75th percentile (unadjusted prevailing) of the same distribution, the number of doctors included in computation of prevailing charges, and the highest and lowest customary charges included in the distribution used for the prevailing charge.

1/ During the period of study, there was a strike at GHI which affected some of its performance measures.

It was found that the change in parameter defining extreme values significantly affects the number of doctors on whose customaries the prevailings are based and therefore the number of prevailings computed. When fewer doctors have customaries and fewer procedures have prevailings, an auxiliary method is required to supplement the reasonable charge determination process.

Carriers are required to merge or compare Medicare claims with their non-Medicare business. In our simulation, prevailings computed for Medicare claims and non-Medicare claims were compared to each other and to the prevailings as computed by GHI using all the claims. The same computer programs and parameters were used in all the computations. It was found that while the prevailings computed from each of the files separately do differ significantly, the differences do not affect the prevailings used by GHI because the number of claims in non-Medicare file is relatively small - about one-tenth of the number of Medicare claims.

The effect of carrier computer programs on prevailings was evaluated by comparing prevailings computed by BC/BS for Nassau county to those computed using GHI programs (after converting BC/BS claims into GHI format.) While the two carriers use different parameters to determine extreme values and differ in specialty designation, the results show there is no significant effect on the magnitude of the prevailings from the program alone.

The effect of locality designation on prevailings was tested by combining Medicare claims of Queens and Nassau and computing the combined prevailings using GHI programs and parameters. These prevailings were compared to those computed (using GHI programs) for Queens and Nassau separately. The 50th and 75th percentiles of the distributions showed no significant differences between the combined file and each of its components. The conclusion, then, is that combining Nassau and Queens into one locality had no effect upon the

prevailing charges in these counties.

To test the effect of specialty designation, the prevailing fees computed for Medicare claims using the standard GHI groupings were compared to prevailings computed for each specialty individually. No significant effect of specialty designation was found at the 75th percentile. This was not the case, however, for the Economic Index adjustment: when its effects were evaluated, significant differences were found in that adjusted charges were lower at both the 50th and 75th percentiles. Since the adjusted 75th percentile represents the administrative upper bound for reasonable charges (subject to the "no roll-back" provision), it seems that the Economic Index restrains program outlay.

The simulation trials were complemented by the micro-level studies of physician and beneficiary behavior in the two adjacent counties.

Provider Behavior Profiles

As a basis for determining if there were significant differences between physicians in Queens and Nassau as to characteristics and behavior in the Medicare market, profiles of all physicians in the two counties who served Medicare patients were developed. These profiles were based on all claims for Part B service submitted to GHI and BC/BS of GNY (the carriers for these two counties) for service in 1976.

In 1976, 2,335 of the physicians in Queens county listed in the GHI physician register were active in Medicare. Of these, 22.7% were board-certified. Almost half of the physicians were in primary care. In 1976, they saw a total of 271,213 patients. This is a gross count in which beneficiaries seen by more than one doctor are counted once for each doctor they consulted.

About 37% of Queens physicians had fewer than 25 Medicare patients, and can be termed relatively inactive. On the average, physicians had 116 patients. While doctors provided 5.5 services per patient, almost one-third gave only 1 or 2 services and another third performed between 2 and 6. Physicians differ also in variety of services performed. Over 50% of the doctors reported fewer than 10 different procedures; the mean was 15.5. Variety was further examined by specialty and revenue class. Physicians with the least diversity are in primary care where a few office and hospital care codes express services rendered. Most doctors (59%) provided services both in the office and the hospital.

For the 2,594 doctors in Nassau county who were active in private Medicare practice in 1976, many of the distributions were similar to those for Queens doctors. However, there are some differences. Nassau doctors averaged higher in volume of Medicare services, patients treated, and accompanying revenue. They performed a greater variety of procedures per physician. Although they did not report more services per claims, they totalled more services per patient. A large proportion of Nassau Medicare doctors had very few patients but the mean number of patients in 1976 was 139. The average number of services per patient was 7.28. Thirty-five percent of the physicians performed 30 or more different procedures, and surgeons were most likely to have this level of variety. The proportion of Nassau doctors who performed services in both office and hospital was 68.9% while 23% gave no Medicare services in the hospital.

The proportion of medical and surgical specialists among physicians active in Medicare is higher for Nassau than Queens (57.8% vs. 52.5%). The converse is true for GPs - 29.0% in Queens vs. 22.5% in Nassau-which suggests that the practice patterns of the two counties differ partly because Nassau physicians provide more of the total care used by their aged patients while Queens physicians concentrate more on "maintenance" services.

As already seen, "Medicare physicians" may have few or many Medicare patients. Income derived by physicians from elderly patients also varies widely. Total submitted charges per physician averaged $29,003 in Nassau and $18,988 in Queens. The difference is 52.7%. Program outlay per physician is 74.1% higher in Nassau (which, as explained in Chapter 12, may be overstated by the measure available for use.) Revenue per physician is 50.1% higher in Nassau. These differences are all reduced when placed on a per patient basis, since the average number of patients is higher in Nassau. Furthermore, since the number of services per physician is 44.1% higher for Nassau physicians, financial comparisons on a per service basis show only a minor difference between the areas. Submitted charges per service are 6.0% higher in Nassau.

One way that the difference in revenue flow was translated into individual practices was in terms of the percent of all doctors in the revenue class $60,000 or more - 11.4% for Nassau and 6.2% for Queens. The high-revenue physician accounted for 27.2% of all Medicare services in Queens and 41.6% in Nassau.

In both Queens and Nassau, physicians show wide dispersion in assignment rates, with no clearly consistent pattern except that as revenue class increases percent of revenue derived from assigned claims tends to increase. In Queens assigned claims were 32.2% of all claims and account for 29.8% of total revenue. For Nassau these figures are 35.9% and 36.2%.

The top revenue class in Nassau had a higher ratio of assigned to total claims and of assigned to total revenue than in Queens. For both counties the acceptance of assignment varies among specialists. The assigned claims rate was highest for "other" specialties[1/] and GPs were most likely to obtain higher percentages of revenue from unassigned claims.

1/ Not medical or surgical specialties or GPs.

While revenue and outlay figures derived from Queens and Nassau claims data are the only available source for estimates of expenditure and income, they are not exactly comparable between the carriers. For assigned claims, GHI "Medicare revenue" measured by the amount paid to the supplier may be an underestimate while for BC/BS, Medicare revenue from assigned claims is measured by the reasonable charge and may be an overestimate if coinsurance and deductible are not collected. In GHI, "program outlay" for assigned claims is measured precisely by the amount paid to the supplier; in BC/BS, program outlay is estimated as 80% of the reasonable charge. Submitted charges, however, do provide a consistent concept of revenue associated with Medicare performance and of price level and can be compared between carriers, on the assumption that the two areas do not differ in the extent to which the deductible, the coinsurance, and the difference between reasonable charge and submitted charge is collected.

Beneficiary Behavior Profiles

As a companion to the provider profile study, a comparison of beneficiary experience under Medicare Part B in Queens and Nassau was carried out by analysis of 1976 claims. A sample of about 4,000 enrollees was drawn for each county from the BEST Alpha file and matched against each carrier's claims. In addition, Nassau provider claims were searched for utilization by Queens residents and vice versa. When service in either county is taken into account, 50.2% of the Queens residents and 63.1% of Nassau residents used Part B services, out-of-county use being higher for Queens residents. The user rate for females in both places is greater than that of males. The user rate in Queens is only 30.9% at age 65, rises thereafter, but falls again after age 85. For Nassau, 37.5% of those aged 65 used Medicare physician services; the rate rises with advancing age and drops after 85 but less markedly than in Queens. While

beneficiaries in Nassau are older (based on mean ages) than those in Queens, it is not clear whether the age difference contributes to higher user rates in Nassau, for both sexes in Nassau have higher user rates although only the women are significantly older.

On the average, Queens user-beneficiaries saw 2.2 different doctors, and those in Nassau saw 2.6. More than half of beneficiaries in both counties were treated by more than one category of doctor. Usually surgical specialties were used in combination with others.

On the average Nassau users had 21.1 services per person compared to 13.5 in Queens. The number of services per person ranged up to 214 in Queens and up to 362 in Nassau, and in Nassau patients using 45 or more services accounted for 49.6% of all services. Procedure variety per patient was greater in Nassau, where 5% of patients underwent more than 15 procedures and the proportion of patients having only one procedure was 19% in comparison to 28% in Queens. Although Queens residents tended on the average to see fewer doctors and receive less service their intensity of utilization was higher in that they tended to return for follow-up office visits at shorter intervals than did Nassau patients.

Comparison of place of service shows some similarities and some differences between Queens and Nassau. In both areas most user-beneficiaries received some service at doctors' offices - 93.3% in Nassau and 88.3% in Queens. The proportion of beneficiaries hospitalized as indicated by claims for in-hospital services was 25.2% for Nassau compared to 15.9% for Queens. Along with higher service volume, mean aggregate submitted charges were higher in Nassau than in Queens, $289.73 vs. $220.24. About 3/5 of beneficiaries in both counties had no assigned claims. Substantial variation in assignment

rates among four main types of services occurred and the response of assignment decisions to size of bill did not follow a general rule. Nassau surgery was notable for a high volume of relatively inexpensive procedures, for which assignment was more likely than for similarly priced services in Queens.

Comparison with Medicaid

Another dimension was added to these comparisons by creation of provider and patient profiles for Medicaid in Queens. Portraits of providers and beneficiaries under Queens Medicaid were derived from claims submitted for reimbursement for service in the year July 1974 - July 1975. A sample was drawn consisting of 565 physician providers of service under Medicaid. Provider figures were analyzed according to age of beneficiaries served: under 65, 65 and over, and all. The beneficiary sample, based on all beneficiaries served by the providers in the sample was divided into those aged 55-64 and those 65 and over in 1974. These profiles were compared to the profiles for Medicare providers and beneficiaries in Queens on all claims submitted for service in the calendar year 1976, the closest period for which data comparable to the available Medicaid data were obtainable.

In comparing statistics for Medicare and Medicaid, for the 65 and over group in particular, the findings must be interpreted against the background of who is covered by Medicaid and how the program is used to finance care as a supplement to Medicare coverage. In addition, the provision of some medical service in public hospitals-for which private physician claims are not submitted-is not registered in figures for utilization of medical service by Medicaid beneficiaries based on claims.

Fees under Medicaid were lower than allowed charges under Medicare. The average number of services per patient provided by each physician was also lower but the average number of patients per physician was greater.

For all groups of patients combined, the mean Medicaid outlay per provider was $9,452, not very different from the mean outlay under Medicare, which is $10,209. However, the Medicare outlay per patient, $87.89, is more than double that for Medicaid, $37.51.

Almost 2/5 of Medicaid physicians receive under $1,000 for all Medicaid patients they see, with over 2/5 receiving between $1,000 and $19,999. For Medicare, more of the doctors are in higher revenue classes. Medical specialists in both Medicare and Medicaid were the type most likely to receive revenue of $1,000 or more, the percent being higher in Medicaid.

A mean of about 300 patients per Medicaid physician was found, but this number reflects the very large number of patients seen by some Medicaid providers;the median was 37 patients (from all age groups). Physicians performed an average of 3.8 services per beneficiary under Medicaid.

Utilization figures are indicative of the limited use of Medicaid for the elderly, a large proportion of whose service under Medicaid was evidently for initial visits before the Medicare deductible was met. The comparison with Medicare indicates a reluctant supply of service under the low fixed fees of Medicaid, even for those under 65.

Part D - Implications of the Study

Methodological Issues Reviewed

Methodological problems relating to the study of carrier practices and their influence on Medicare fee levels are presented in Chapter 16 of the report to permit readers concerned with the Medicare program to assess risks in using the results as the basis for policy decisions. Furthermore, data limitations discussed have a bearing on decisions to improve regular data collection and compilation activities of HCFA. The mounting of further research efforts should take into account data problems encountered in this study and the need to

acquire different data sources on factors that enter into complex relationships.

Included in the review of methodological problems are limitations of single-year data in a dynamic behavior model, the importance and difficulties of securing data based on standard definitions, affecting both national analysis and research within individual carriers, and the task of selecting appropriate measures of fee levels. For many discretionary practices of carriers no information is available. Objective quantitative data on some practices that are reported are lacking and certain important practices are omitted from consideration. Also discussed are limitations of secondary data sources and of the files on socioeconomic variables, including absence of age-specific information on some variables and incomplete measures of doctor supply. Finally statistical inference involves such problems as dealing with non-normal data and creating unitary measures of fees for different procedures within a carrier territory.

Future Directions: Policy and Research

While the methodological problems cannot be ignored, areas in which carrier variations in the Medicare administrative process may have compromised the program purposes were brought out by the CUNY study, and these are considered in developing recommendations for HCFA in administering, monitoring, and analyzing Medicare. New legislation may be needed to accomplish certain improvements but others can probably be attained by regulatory guidelines.

A uniform code for medical procedures, to be used by all carriers, would make it easier to evaluate Medicare administration and its implications for cost and quality of care. Similarly, standardization of specialty designation, now a subject of carrier discretion, would assist evaluation of the benefits derived

from current program expenditures relative to their cost. Uniform carrier definitions as to claims data, claim content in terms of service, etc. would promote assessment of carrier performance as well as price analysis.

Carrier discretionary practices have some effect on prices and also introduce numerous variations into the pricing structure affecting doctors and patients in local submarkets for particular Medicare procedures. Continued analysis of effects of practices, e.g., those used in locality designation and data merger approach, is called for so long as the reasonable charge approach is used. A related need is the evaluation of how beneficial and how probable assignment is under different circumstances and how to promote it. The Medicare system must address general goals such as quality of care and equity of access more systematically than it has in the past. Its restricted and somewhat conflicted original intent should be reinterpreted in the context of current concerns and knowledge. The redefinition of needed services to state affirmatively the role of prevention would stimulate efforts to devise or select efficient modalities for prevention. Revised guidelines can be used to foster desired trials in reasonable charge determination and in the recognition of quality, equity, and prevention as elements in the payment base.

The report includes recommendations for future studies (Chapter 18) that are intended to keep HCFA prepared for alterations in payment methods. The recommended studies generally call attention to the probability that payment techniques do not have the same impact on all individuals in the Medicare market - providers and beneficiaries - but operate differentially according to characteristics of these participants. The areas presented include study of alternative bases for physician payment, embracing variations on a unit fee basis and reimbursement for continuous service over some period of time, continued exploration of carrier practices, especially as

they are felt by certain types of doctors, studies that would build up the knowledge base for diagnosis-related payment, and research on beneficiary experience and dimensions of access to health services.

In the CUNY study, two different techniques were used to measure the effects of carrier discretionary practices on Medicare reasonable charges. A national study using 50th percentile fees and adjusted prevailing fees for all Medicare localities analyzed the joint influence of socioeconomic factors, carrier pricing practices, and certain indicators of regulatory effort in investigation and reduction of submitted claims on fees. The dominant influence on fees, as revealed by factor analysis and multiple regression, was contributed by features of the local health economy reflecting the interaction of supply and demand. But carrier discretionary practices did add some influence. While it was chiefly those practices having to do with pricing when the usual information to form customary and prevailing fees was absent that were influential, investigation, reduction or rejection of claims also played a part. The micro study, conducted in Queens and Nassau counties, used simulation techniques to evaluate the effect on 50th percentile and prevailing fees caused by changing specific practices within the reasonable charge process. Most of these trials were conducted on Queens claims data, with the result that the socioeconomic environment had no opportunity to influence (bias) the result and the only element varied was the practice under scrutiny. While alteration of specialty designation, claims data merger, locality boundaries, and total computer program did not affect reasonable charges produced, changing the parameters used to exclude extreme charges significantly affected the number of doctors whose customaries could be used. The exclusion of some doctors from the reasonable charge process should be considered in conjunction with the

national finding that "toughness" in pricing in absence of a customary did influence Medicare fees. In this important case, the two discretionary practices need to be regulated together.

The CUNY study also analyzed market behavior of both providers and beneficiaries in Queens and Nassau counties as revealed by claims data, and developed standard formats that can be applied in creating physician and patient profiles in other years and in other places. The study shows certain similarities in distributions between the two counties, but the Nassau market had providers with more patients, services and revenue and these patterns were mirrored in beneficiary distributions describing utilization. It is believed that this arises in part from the higher levels of income in Nassau; while health resources have been attracted, evidently demand sustains the market. However, another important factor is that Queens residents go outside their county of residence for care, particularly hospital-based and specialty services. Carrier behavior is implicated only - but this is a big "only" - insofar as locality designation does not recognize a common market based on utilization. Carrier jurisdiction is based on provider location. In this particular instance, a separate organization is actually handling New York county claims. While these circumstances are anomalous within Medicare, the conflict between provider location as the basis of reasonable charge computation and consideration of patient travel patterns is clearly possible in many metropolitan areas. Specifically, specialists might have an incentive to locate closer to patients if the prevailings took into account both the closer and more distant sources used by patients in the locality.

The analysis of Medicaid in comparison with Medicare accomplished indirectly what it proved to be very difficult to test directly. The original intent had been to study physician response to comparative fee structures representing,

in effect, different levels of doctor input. We did indeed find evidence of responsiveness to the Medicaid fee structure, but it tended to be gross- lack of supply of services to Medicaid patients. For the elderly, Medicaid tended to be used to supplement Medicare benefits, or rather to anticipate them by financing initial services received before the annual deductible was met. Thus Medicaid, for some, compensated for burdens unprovided for in the Medicare design with its copayment feature. For both elderly and younger Medicaid patients evidence of low utilization of office-based services suggests use of public clinics as an alternative. Medicaid's low fee structure provides little incentive to participate. One implication is that if Medicare turns toward a fee schedule for physician reimbursement, the problem of physician participation will surely be salient.

CHAPTER 17

POLICY ISSUES

Chapter 17 explores implications for policy that emerged from the CUNY study. Policy issues are discussed on three levels. First, the process of administration is considered and procedure coding systems, specialty grouping, specialist designation and claims handling procedures are discussed. Second, consideration is given to practices concerning locality delineation, data merger and assignment in relation to realization of Medicare's immediate goals. Finally, the interaction of Medicare with general health goals is addressed.

Introduction

CUNY's study of carrier discretionary practices uncovered many areas of unresolved problems in the administration of Title XVIII of the Social Security Act as amended in 1972 and 1974. These laws formalize the policy of more active control over the reasonable charge process, but set a floor on the price level under the Economic Index. Some of these problems stem from ambiguities, or even inherent philosophic contradictions, in the laws themselves. Others are unanticipated administrative problems that became apparent with experience under the law.

An optimal medical care system would satisfy all the following goals:

1. Access to needed medical care for all members of the population regardless of age, income, geographic location or other socioeconomic differences.

2. Adequate total supply and distribution of health resources among types of medical care in relation to need.

3. Equitable distribution of the burden of paying for health care.

4. Cost containment, that is, preventing waste and holding the cost of medical service to a "proper" proportion of the total national output.

5. Fair reward to providers of health service.

6. Medical care of high quality.

7. Opportunity to modify existing technology and delivery arrangements when the development and diffusion of improvements offer promise of benefit justifying the costs involved.

8. A system that emphasizes the prevention of ill health and maximization of health status rather than remedial, palliative or custodial medical care.

In practice, however, a tradeoff among these goals is necessary. Frequently actions aimed at achieving one end impinge in unexpected ways on others.

Moreover, objectives that would seem to be attainable under simple regulations or guidelines in many cases prove difficult to accomplish.

The following pages present our recognition of numerous areas for reconsideration of Medicare methods or policies in three general (though overlapping) categories: the process of administration, implications of carrier practices in relation to the Medicare program, and implications of practices in relation to broad health care goals.

The Process of Administration

An efficient administrative process generally promotes realization of a program. Effective administration involves setting up standards, monitoring, evaluation and finally, appropriate action based on the foregoing. Specific and comprehensive knowledge of the various elements in a situation must be available to the administrator.

For a program of the scope of Medicare, data collection and processing are fundamental to efficient administration. Of foremost importance are increased uniformity and precision of terminology. Variations in definition confuse evaluation of carrier efficiency and implementation of Medicare regulations.

Three areas in which improved data are needed are discussed under A, B, and C.

A. Procedure coding

Reimbursement systems based on fee for service require a coding system in which procedures are recognized as specific entities. Under Medicare, medical encounters varying as to content and circumstances may be submitted as claims under a single code. Differences in carrier coding systems have blocked comparison of fees and evaluation of carrier performance. Terminology has also complicated carrier efforts to merge or compare data from non-Medicare sources with Medicare data, as was found in our micro study. For New York Blue

Shield and Group Health, Inc., a comparison of the fifty leading procedures for which MB-HCFA[1/] collects 50th percentile and adjusted prevailing fee data showed that only 18 were defined by the two carriers in identical terms.

B. Definition of specialist

Responses to IM 75-53 revealed that carriers differ in their grouping of specialists for determination of prevailing fees. Fourteen percent of carriers established no more than one prevailing per procedure; 26% used two to five groups, and 12% divided physicians into more than five groups. An additional 48% of carriers recognized specialty groups but did not indicate how many they used.

Until 1977 carriers were not asked to apprise HCFA of the criteria they used for specialty status, and therefore, comparisons of GP and specialist fees have been hard to interpret. Questions designed to fill this information gap were included in IM 77-76. Responses to this questionnaire should be a useful source of data on what specialist screens represent as to skilled inputs into Medicare covered services in different areas of the U.S.

C. Claims handling

Data pertaining to specific processes involved in receiving, examining, and disposing of claims should be unambiguous and comparable among carriers. Preferably, standard terminology should be used nationwide. There are today many points in the claims handling sequence with potentiality of confusion of terms. For example, if carriers use diverse methods of dating the receipt of claims, or the start of the processing period, inter-carrier comparisons of processing time and correlation of any aspect of reasonable charge determination with processing time are invalidated. An example of variation in claims

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1/ Medicare Bureau-Health Care Financing Administration, formerly Bureau of Health Insurance (BHI).

dating methods is found in the Annual Contractor Evaluation Report (ACER) on Blue Shield of Greater New York, for July 1, 1975 - June 30, 1976. The ACER notes that claims are assigned a control number (used to track aging claims) on the date of coding instead of the date of receipt as specified in No. 5240 of the Manual. The need for clear terminology also applies to the "claim" unit. Comparisons of claims processing costs are less valid if the "claims" submitted to different carriers are not, on the average, equally complicated. For example, claims that list multiple instances of one procedure or multiple procedures cost more to process than claims for a single service.

Not only data terms but also the forms of processing are significant for evaluating Medicare administration. In our micro study, because of discrepancies in programming systems, it was necessary to convert the data of one carrier to the format of the other in order to undertake simulations and compare beneficiary and provider data. The problems encountered in reconciling code structure differences, use of action codes, excluded items, etc., led us to rate highly the advantages of a uniform processing system. Experimentation leading to a uniform system might be supported in demonstration areas.

IM 78-3 and 78-23 withdrew MB support from the Part B Model System and set up steps for review of individual carrier requests for consequent cost increases. Meanwhile a study financed by MB on feasibility of regional processing centers was completed (IM 77-46).

The Medicare Program

The Medicare program as established by Title XVIII and subsequent amendments provided that medically necessary services be offered to eligible recipients at fee levels that generally reflect the medical market in a locality and at levels no higher than local prevailing fees. Congress expressed its intent that there be minimum interference with the existing practice of medicine.

Subsequently, Congress also legislated the application of an Economic Index to limit physician fee escalation under Medicare.

Experience has revealed that these goals were incompatible to a large degree and also that the performance of some carriers adhered more closely to the program outlined by Congress and executive regulation than did others. Moreover, as revealed in the responses to IM 75-53, which gathered information about carrier conformity to Medicare regulations, individual carriers were not consistently either strict or lax in their policies.

A. Several separate carrier choices are involved in setting prevailing fees. Many of these choices can be classified together as making up the decision concerning which claims are to be grouped together in setting prevailing fees by procedure. These decisions involve the following areas:

1. Minimum number of charges required for a customary and minimum number of customaries for a prevailing. In our analysis of IM 75-53 we found that eight carriers set a minimum of four to five charges, 38 required three charges, and 12 accepted one or two charges as the basis for a customary. In order to compute a prevailing, three carriers required 10 or more customaries, 20 carriers required four through nine, and 35 accepted three or fewer customaries.

Recent amendments to the Medicare Manual have specified that four charges or three with two alike are needed for a customary and a minimum of five customaries are required for a prevailing. Mandating these minima lessens the diversity and restrains the influence of individual high charges or customaries. However, guidelines are lacking to prevent carriers from selecting too high a number as a minimum for a customary or prevailing. For example, if 25 services were required to form a customary for certain procedures few doctors might qualify. This could result either in considerable carrier-wide pricing or in use of RVUs and conversion factors, and thus in a shift away from a Medicare

price structure that reflects local market practices.

2. Exclusion from customary and prevailing calculations of certain charges such as extremes or fees for services performed in certain settings. Carriers vary considerably in the exclusion of submitted charges from Medicare screens, and the potential impact of the various exclusions is not uniform. CUNY's simulation includes tests of the effect of excluding extremes beyond 1, 2 and 3 standard deviations. Changed parameters affect the number of prevailings that can be formed and the number of doctors whose customaries could be used. (See Chapter 11.)

3. Consideration of non-Medicare charges along with Medicare claims in arriving at fee profiles. Medicare Manual #5002 cites the prevailing charges in the locality for similar services as a criterion for carriers to follow in determining reasonable charges and #5026 states that

> "the carrier may not in any case make a determination of reasonable charge which would be higher than the charge upon which it would base payment to its own policy holders for a comparable service under comparable circumstances".

Medicare Part B carriers employ divergent practices in this aspect of program administration. Remarks under #2 above apply equally to the inclusion of non-Medicare data. That is, the theoretical implications of the methods used to carry out the general policy of considering outside claims (merging vs. comparing, merging or comparing the carrier's own non-Medicare claims in whole or in part, consideration of claims other than those covered by the carrier's own policies) differ because of many factors. Further investigation of existing practices and their effects on fee levels is desirable. For example, GHI-N.Y. reports (IM 75-53) that it merges private data, but probing for purposes of our micro study revealed that some private claims were excluded. Only 140,000

non-Medicare claims were included by GHI in its FSY 78 computation, compared to over a million Medicare claims. Reasons for exclusion included different terminology and coding, fixed-fee-contract claims, and size of claims. (Claims valued at over $999.99 could not be processed within one record under GHI's private claims processing system.)

4. Which doctors' charges are to be arrayed together for purposes of determining prevailing fee screens for each procedure. Carriers vary as to criteria for designating doctors as specialists and as to number of specialty groups used. The effect of specialty standards and grouping Medicare fees depends on a variety of factors, but it seems reasonable to assume that low fees are most likely associated with few or no groupings. Study of the relation of criteria for specialty designation as stated in the answers to IM 77-76 to prevailing fees would be useful in deciding if it is desirable to specify the criteria.

B. The delineation of localities is significant in the administration of the Medicare program. Carriers use an assortment of criteria to determine locality boundaries, all of which are apparently valid under the general guidelines of the law and regulations. The number of localities of a carrier is generally unrelated to average population per locality. Over half (55%) of the localities have populations of less than 500,000, while 3.8% have 2,500 or more. Carriers could change their boundaries (and thus alter prevailings in some cases) while remaining in conformity to the Medicare program. By combining charges for Queens and Nassau, our micro study tested the effects of changing locality borders in one instance. The neutral result does not mean that other regroupings would have no effect on prevailings.

Further experimentation with and consideration of locality designation is highly desirable. The guidelines should incorporate quantitative fee-related criteria for locality designation. An example is the suggestion that only when

fees differ significantly from the carrierwide prevailing should carriers subdivide their area into localities. Administrative costs are increased by subdivision. Therefore, only after exploration of the reasons underlying the difference in fees would the carrier be empowered to make the change. This standard may imply different locality designations for different procedures. While this may seem surprising, a uniform definition of localities, regardless of procedure, does not conform to the actual medical market place. A pediatrician's patients, for example, tend to come from a more restricted area than do those of a cardiac surgeon. Carrier Manual #5020.1 in effect recognizes this when it states that "where appropriate, different localities should be established with respect to different types and levels of service". An alternative is to define the deviation from the carrier-wide prevailing in terms of a combined index of procedures and form localities accordingly.

C. The Economic Index has effectively changed the basis of the Medicare fee-setting program. The index interferes with the setting of Medicare fees at levels that reflect prevailing prices in a community. Application of the index approaches a fee schedule system of pricing and tends to minimize differential rates of change among localities from a base year. In our national study we found that for the fifty leading procedures adjusted prevailings in FY 1976 were below the 50th percentile in 3.2 percent of the cases (case=locality x procedure), and in FY 1977 in 9 percent of possible cases. These percents were higher in 1978.

D. Assignment behavior and fees must be considered together to assess effectiveness of the Medicare program. CUNY has accumulated a number of findings about assignment:

1. Socioeconomic factors influence rates. (Regression analysis)
2. Certain carrier practices - claim investigation, reduction, and denial rates - have an influence. (Regression analysis)

3. Processing time for assigned claims is on the average shorter, although the difference varies by carrier. (Carrier workload report)
4. Rates vary by specialty. (1971 payment records)
5. Within specialty, variation by size of claim is absent. For all specialties together, assigned claims tend to be smaller, but this may be due to differences in the procedures that make up assigned and unassigned claims. (1971 payment records)
6. There are physicians who always or almost always accept assignment, others who never or almost never do, and a large group dispersed between these extremes, defined as above 10% and below 90% of claims. (Micro study)
7. Some of the physicians with high assignment rates provided large volumes of service and received large revenues under Medicare. (Micro study)

Our beneficiary profile for two New York City carriers shows that some beneficiaries always have assigned claims, others always have unassigned claims, and others had varied percents assigned. This means that some physicians invariably accept assignment from a certain patient. The patient's ability to pay is evidently perceived as stable by the physician, who makes a single decision applicable to a stream of services. In other cases, this may be negotiated separately for each episode or procedure.

Assignment has as historical background numerous workers' health plans, public assistance programs and other service systems in which physicians, accepting limited fees, combined altruism with recognition that a given market was not integrated with their ordinary practice and that they could therefore maintain a two-fee price structure. Medicare attempted to retain this approach but in effect each physician was allowed to determine a sliding scale applicable to his/her practice. Low-income patients are not given assurance by the program that their bur-

den will be held down. Alternatives to fee-for-service reimbursement combined with assignment must be considered.

The Forward Plan for Health 1976-78 referred to a status of Medicare participating physician, as a provider who agrees to accept assignment, in exchange for which Medicare would collect copayments for the provider. This proposal opens another door to carrier discretionary practices in collecting deductibles and coinsurance and causes an explicit additional cost. The physician would have absorbed this cost before but only if collection had been attempted. For physicians who had been acceptors before, net revenue would be increased both for those not previously collecting copayments and for those doing so at their own expense. Physicians who had not been acceptors before would now give up possible extra revenue for the security of assured payment of the reasonable charge. The impact of a change like this could vary widely across carriers, specialties, and practice characteristics.

Some beneficiaries who did not previously make copayments would now have to do so. The extent and incidence of this is not known because we do not know how often doctors collect the whole submitted charge. Other beneficiaries who previously did pay deductibles and coinsurance would gain only if the level of charges were reduced by the change. The effect of the proposed arrangement would vary among beneficiaries.

Physicians could also respond to lower received charges for their services by modifying procedure codes, by scheduling more return visits or performing extra services within a visit, and by shifting place of service, using any of these means to avoid a fall in net revenue. Hence, many additional controls could be necessary. How much it will cost to spread assignment, and who will bear the added costs, remain unknown.

Attaining Health Care Goals

With regard to the realization of broad health goals, Medicare has two paths

of influence. While specific carrier practices affect goal attainment, the design of the Medicare program itself is more fundamental. Title XVIII and amendments have increased access to care for the elderly and a few other groups, but various health services are excluded from coverage and the patient must pay the deductible and coinsurance. Moreover, providers are free to collect more than the Medicare reasonable charge. As a result, access to medical service, despite Medicaid, is not equal for all eligible beneficiaries. Furthermore, the burden of covered medical costs is borne in part by the covered population through direct premiums and partly from general revenues. The share of expenditures accruing to any given enrollee varies with amount and type of illness and local fee levels.

Underlying the potential impact of Medicare is the basic philosophy of minimum interference with the existing medical market. In the program as legislated, there is no overall plan for the distribution of health resources, no provision for optimal quality of care, and no specific provision for meeting health goals other than increasing access by the elderly. Gradually, however, the broad implications of the program are unfolding and various refinements have been introduced which tend to recognize other goals and their interactions. In the light of possible enactment of national health insurance, thorough study and discussion of the implications and ramifications of the Medicare program - both strengths and shortcomings - are urgently needed.

Within the boundaries of the existing Medicare program, carriers' administrative choices also relate, even if indirectly, to the realization of general goals. For example, cost containment is blocked by any carrier practices which tend to permit or promote increasing fees (above the minimum needed to elicit supply of service), or which allow payment for unnecessary or improper service. Inefficient processing also raises program costs.

The time has come for systematic study of the influence of diverse carrier

practices on the eight health goals listed above in the introduction. With regard to #1 and #3 (access and distribution of burden), answers could be derived from beneficiary studies. Information applicable to #2 (supply and distribution of types of services) may be obtained through implementation of section 5240.5 of the Medicare Carriers Manual. This section includes guidelines for analysis of physicians' pattern of delivery of health services.

The concept of cost containment, the fourth goal includes holding down costs to society, to the Medicare system as a whole, and to individual beneficiaries. Implications of various carrier practices on prevailing fees have been considered throughout the CUNY study. However, carriers do not have responsibility for fees paid by beneficiaries beyond Medicare allowed charges. In this connection, it appears that assignment is not offering consistent results.

The fifth objective listed is "fair" reward to providers, an aim which not only is ethical but should insure supply of services and promote service quality. In general, the correlation found in this study between prevailing fees and socioeconomic factors shows a responsiveness to local conditions and local needs. The economic index, however, based on national figures without regard to differences in local conditions or costs of practice among practitioners, may be discriminatory. More knowledge of carrier practice regarding appeals and unusual circumstances would aid in evaluating fairness to individual providers or provider groups under Medicare. While the rapid general rise of health care fees is well documented, areas of discrimination may exist.

Goal number six, quality of care, results from many factors besides carrier practices. Nevertheless, carrier administration may prove important. Carriers set payment levels for services identified by procedure codes. However, with some exceptions, such as durable equipment, a medical service is not a standard, easily defined output, and the outcome or ultimate product of medical service certainly is not easy to measure. For many reasons two instances of a service of a

given procedure code are not necessarily equivalent. Nevertheless, service of high quality is obviously desirable. PSROs may influence Medicare service quality in the future but so far do not appear to have a major effect. Carrier policy relative to minimum quality standards (both for particular procedures and for the combination of services received by a patient) and promotion of maximum quality should be analyzed. Information on standards for specialist status from the IM 77-76 evaluation questionnaire (see A4 above) should suggest directions for pricing guidelines.

Opportunities for modification of existing technology and arrangements for delivery of medical care, goal number 7, are affected by carrier practice. Although research and development are not primarily carrier concerns, the diffusion of desirable improvements may be hampered or accelerated by carrier policy. Particularly significant in this connection are special consideration of unusual circumstances or services, responsiveness to appeals, and interpretation of the medical necessity guideline in fee and payment decisions. Implications of these carrier practices require further consideration.

Finally, while prevention of illness is not a direct goal of the Medicare program and carrier participation, carriers do indirectly affect prevention. The breadth of carrier interpretation of medically necessary services (ancillary as well as physician services), the second-opinion surgery program, and payment for patient-initiated consultation services, merit study in this regard.[1/]

Recommendations

Study of carrier options - available and used - in the administration of Part B payments has indicated to us the need for a variety of policy revisions in order to maintain program integrity in a broad sense. Recognizing that the pro-

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1/ The delivery of preventive services is very frequently intertwined with treatment of illness among aged persons; however, the payment system does not specifically recognize this, which leaves it less than certain that access to prevention is attuned to needs of all claimants.

cess of policy change may involve lengthy deliberation and debate, we have already pointed out the need for a flow of information to guide this process and also as support to consistent administration, and we have noted types of information that are relevant as suggested by our research. In addition to this need, there are steps that HCFA may, and we think, should consider now:

1. Standard terminology to be used in carrier coding (e.g., procedures) and in statistical reporting (e.g., claim and "date").

2. Uniform claims processing system.

3. Guidelines for the upper bound on minimum number of instances of services to form customaries, and for merger of comparable non-Medicare data.

4. Revision of locality guidelines, or experimentation with new locality designation in selected areas.

5. Trial of different versions of an economic index in recognition of geographical and specialty differences, and to avoid the cumbersome process of superimposing the index on the reasonable charge computations.

6. Conduct of beneficiary studies - either independently or within other government statistical programs, such as the National Medical Care Expenditure Survey - to determine financial burden under Medicare.

7. Consideration of alternatives to assignment as a method of equitably and reliably sheltering poorer beneficiaries from top price.

8. Investigation of carrier practices relating to fair treatment of individual physicians, such as conduct of reviews and their financial implications for the providers involved.

9. Continuous review of ways in which administration of the Medicare law can best be oriented to achievement of general health goals.

CHAPTER 18

RECOMMENDATIONS FOR FUTURE RESEARCH

Chapter 18 recommends further research that will help HCFA consider and prepare for payment methods that are alternatives to the fee-for-service method.

In studying discretionary practices in relation to fees and Medicare payments, and provider and beneficiary behavior in a market where care is partially supported by public funds, the complexities of present arrangements for reasonable charge determination and the consequent burden on HCFA in assuring attainment of major health care goals and even in preserving program integrity have become quite evident. Future research must be oriented to both short-range and longer-range utility, the distinction referring to the probability of major revision in strategies for payment of personal health services. It must also be sensitive to trends in health care technology, manpower configuration, potentialities for quality control, and the economy as a whole, but in an interactive rather than a reactive mode, for Medicare as a major spender is in a position to reinforce, check, and initiate developments in the health care economy. For example, it can support a fee schedule for non-physician practitioners that encourages supply (although indirect effects must be anticipated and evaluated).

Alternative Bases for Physician Payment

Alternative reimbursement bases for Part B offer promise of increasing administrative simplicity (eliminating or cutting down the grouping and calculating tasks of the reasonable charge process) and, by providing uniform price information, would simplify the market search process for beneficiaries and would assist cost projection and program planning for Medicare. Options that remain within the fee-for-service concept retain visit, service or surgical procedure as currently defined with pre-operative and after-care as the unit of account.

The fee-based group of options attempts to set a fair price based on economic conditions of a given area and the input required to produce given services.

It includes different approaches to determining the economic returns for medical specialization and to the retention of the reasonable charge determination process.

A second group of options would move the payment basis in the direction of all care required by a given patient in a defined time period as the unit of reimbursement. This approach attempts to recognize in reimbursement methods the orientation of health services for the aged to continuity of services over years of continuous enrollment. It is aimed at removing any financial reward for unnecessary services or bias toward services of a specific type while assuring care for chronic conditions. It recognizes discretion on the part of the practitioner in interaction with the patient in determining place and nature of services. This group could be extended to preventive services not now officially covered under Medicare. It includes condition-based reimbursement, annualized capitation for patients with chronic conditions plus episode fees for services for other conditions, and full capitation. All involve aggregation of services into natural functional sets appropriate to the medical care process.

While the last is difficult to apply within solo practices, the full capitation approach as a concept could be used to trace out the effects of different fee bases per encounter for the whole Medicare system. That is, utilization patterns, aggregate costs per 1000 patients, and distribution of revenues among specialists assuming alternative bases would be interpreted with reference to a capitation model. Distributions can be compared with experience of group practice organizations and HMOs participating in care of the aged.

This second group requires much more far-reaching change within Medicare and such alteration should be based on an improved knowledge base. Differences in utilization patterns by diagnosis and health status level, by demographic characteristics, and by relationships with providers must be better understood. The effect of such reimbursement approaches on workload and revenue of individual practitioners should be modeled and interpreted from data on practice characteristics.

Simulation of the effects on program outlay and beneficiary burden to be expected from alternative payment bases will be carried out by CUNY in a study supported by a HCFA grant. Included are modifications of fee-for-service: a single fee for a procedure regardless of specialty status of practitioners, a two-fee system for a procedure in a geographical area - one for board-certified specialists in defined relevant specialties, and one for all other physicians, the 50th percentile prevailing fee, indexing of customary prices for a base year, and the 75th percentile prevailings adjusted for the economic index. Comparison with the current method provides a benchmark. Further trials could include: alternative area definitions (varying the size of the market for different procedures depending on the extent and nature of present fee variability) and modification of the economic index to reflect different expense/income ratios in different specialties and regional differences in cost trends.

Subjects for Study if Continuation of the RCP is Assumed

It has been pointed out earlier that the interaction of carrier practices and fees, physician behavior, and utilization cannot be clearly revealed by single-year studies. Data for longer periods of time are necessary to develop and test dynamic models. Earlier chapters of this report have referred to needs for improved data on carrier practices and related matters. Also noted

was the need to delve further into alternatives to assignment, and to the economic index as currently applied. Specific needs for information include: procedure coding, claims handling, specialty designation; program logic as a discretionary factor in the RCP; data merger/comparison practices; appeals and unusual circumstances; and interpretations of the medical necessity guideline.

Our findings have indicated that 75th percentile fees are more sensitive to carrier performance measures than 50th percentile fees. This raises the question of whether certain doctors (those with fees above the 50th percentile) are more responsive to carrier administrative differences than others. Research could yield useful information on:

a. characteristics of claims that are most likely to be affected by differences in investigation, denial and reduction rates and in processing time and claims turnover.

b. characteristics of practitioners who are most often involved in the situations of investigated, denied or reduced claims and most often wait for payment.

While it has been possible to analyze Medicare activity and revenue of individual practitioners, information on the relation of Medicare activity to total professional activity and Medicaid participation, as shown in revenue and workload data, would be desirable. In particular, it would show which doctors are heavily dependent on Medicare, and suggest how much responsiveness is likely to be seen to alterations in Medicare. More refined county level data on health status, utilization, and additional socioeconomic factors, and physician supply on a county basis adjusted for aides, equipment, and hours of work, would be useful in such analyses.

The other recommendations contained in this chapter relate to "Diagnostic reimbursement" studies, studies of beneficiary experience and measurement access to health care under current reimbursement.

Diagnosis and Reimbursement

The sparsity of diagnostic data for research purposes in data sets that include or are easily matched to fee-service-payment data is a barrier to a variety of useful studies. For physician reimbursement policy, we should know where the Medicare money now goes by broad and narrow diagnoses, which practitioners are involved in the treatment of which diagnoses, what is the fraction of total utilization by individuals accounted for by important diagnoses, and how these distributions compare to measures of the distribution and importance of the major diagnoses.

The confirmation level of diagnoses is a methodological problem in conduct of studies where diagnosis is a significant variable. It has been noted in the New England Journal of Medicine that 25% of hospital-record diagnoses (presumably of decedents) are reversed by autopsy.[1/] Carriers do have the physician's entry of diagnostic information on Medicare form 1490. In the GHI case, the information is used to test acceptability of certain procedure parameters (e.g., no more than so many office visits in a given time period for a given diagnosis are accepted), but is not retained in the history extract file used in developing prevailings. The coding of diagnosis from 1490 is under carrier control and little is known about the standard of verification applied. The proportion of diagnoses that is considered verified is affected by the state of the art in diagnostic technology. The hypothesis that this proportion is affected by

1/ William C. Roberts, "The Autopsy: Its Decline and a Suggestion for its Revival", New England Journal of Medicine, Vol. 299 No. 7, Aug. 17, 1978, pp. 332 - 338.

pricing of laboratory and X-ray procedures could be examined. It would be important to develop a solid criterion of confirmed or reasonably confirmed diagnoses in ambulatory care and in hospital care before a diagnostic basis could be applied either to analysis of utilization, supply, and expenditure or to design of reimbursement based on diagnostic grouping. The implications of paying for designated activities or volume of care only if a certain diagnosis has been shown (as is now the rule for CT scans under Medicare) need to be studied. What is the effect on frequency, cost to Medicare, shifting of cost (for uncovered services) to patients, and eventual utilization of other covered services?

Those services that are highly dependent on a specific diagnosis should be separated from those that have broader medical indications in order to examine both the domain of possible controls and the manner in which they would be most sensibly applied. For example, visual impairment regardless of cause might be a factor in providing for office visits for injections rather than other routes of administration of medication.

The identification of chronic diagnoses that might serve as the basis for modified episode payment involves collecting all information on a given patient's care and comparing expenditure by the Medicare program if that portion of care related to a specified diagnosis were reimbursed as a unit instead of on a fee-for-service basis. The alternatives of including all care received by a patient with a certain disease as opposed to only that care related to the diagnosis in the aggregative payment should be analyzed, including modification of physician and patient behavior that thwarts the intended controls.

The diagnostic nomenclature used in all types of medical statistics and epidemiologic work is quite elaborate and well-established. Yet there is need for considering a new principle of organizing patient condition information for

analysis of needs, utilization, and reimbursement. In the field of nursing care, patient classification is based upon problems rather than diseases, and an interesting set of categories has been presented,[1/] using activities that are universal and those that are related to health deviation and relate to domains of daily living.

A typology of levels of success in healthy aging could be created and matched to utilization data to see how the Medicare system is adapted to providing timely access to those who are "not thriving" while not affected by severe illness.

It is suggested that a simplifying approach to payment that will combine narrow diagnostic categories and place them on an equal footing, as long as need for a certain level or sequence of care is predictable, can be developed for Medicare. This would avoid the long list of 4-digit diagnoses now used to express utilization of ambulatory care; and, since the need for care may be very similar for persons with varying diagnoses, long protocols could be avoided. Also, any incentive to force reported diagnoses into categories eligible for payment would be removed. The factor of severity would be given weight and could be expressed in terms of criteria that are diagnosis-free as well as the combination of marks of severity for individual diseases.

Related approaches have been developed in long-term care.[2/] For non-institutionalized patients, the Sickness Impact Profile has provided a measure of illness and a method of classifying health status based on individual perception of impairments in specific aspects of daily life.[3/]

1/ Criterion Measures of Nursing Care Quality (B.J.Horn and M.A.Swan), National Center for Health Services Research, Research Summary Series, DHEW Publication No.(PHS)78-3187.

2/ Ellen W. Jones, Patient Classification for Long-term Care: User's Manual, DHEW Publication No. HRA 74-3107, HRA, Bureau of Health Services Research and Evaluation, December 1973.

3/ M. Bergner, R.A. Babbitt, W.E. Pollard, D.P. Martin and B.S. Gilson, "The Sickness Impact Profile: Validation of a Health Status Measure", Medical Care, Vol. 14, No. 1, January 1976.

It is appropriate to evaluate whether the reimbursement system encourages timely use of service by aged who fit the description of "the worried sick", often having diffuse and idiosyncratic dysfunctions. Studies concerning diagnosis-related reimbursement should be focused on identifying major diagnostic categories that can be the basis of aggregative payment, validating the diagnoses, documenting anticipated patterns of service use, estimating the distribution of multiple diagnoses, and defining alternative options for Medicare outlay and program emphasis (e.g., detection strategies). It will be necessary to secure medical detail beyond that usually found on claims, to involve physicians and medical record experts in coding criteria, and to distinguish services for different diagnoses to the same individual. Linkage with NAMCS and the Hospital Discharge Survey could be explored. An enlarged patient record could be solicited from a sample of practitioners.

Beneficiary Studies

A series of studies of beneficiaries' experience under Medicare would provide information to fill in areas of speculation about the effect of reimbursement practices on financial burdens on the elderly and their access to care. As a minimum, questions on the Medical Care Expenditure Survey which are either directly related to Medicare enrollees or the answers to which would express utilization and out-of-pocket costs under Medicare should be reviewed as a set and possible additional questions for the regular questionnaire or for a special supplement should be considered. The sampling design should be reviewed also to help decide if separate beneficiary studies based on interview should be revived. Opportunities for validation of interview data against claims data should be explored as a methodological investment.

Interview surveys offer opportunities to study actual copayments, that is, whether, and under what circumstances, the deductible and coinsurance are collected. Perceived price of service, which may or may not coincide with out-of-pocket cost, can be measured. Through interviews, utilization and preferences can be examined, including: out-of-area doctors; family practice specialists; HMOs vs. fee-for-service care sources; doctors' prescribed revisit cycles; office, home and hospital as place of service; care outside the nursing home for nursing home residents; transportation/escort problems affecting use of least expensive care sources. Knowledge of how the deductible is being met today and how this correlates with other significant aspects of access will be pertinent to decisions about modifying the size of the deductible and the methods that beneficiaries may have at their disposal to meet it.

The relation between use of ambulatory and in-hospital services is important for reimbursement policy because it would be helpful for cost containment if incentives to provide and use ambulatory care were effective and would keep down hospital utilization. Total patient experiences need to be examined to see whether patients with much ambulatory care have little hospital care and vice versa.

Patients can be divided into such groups as: those with heavy office care leading to hospital use (e.g., for surgery) followed by more office care; those with little office care but a large hospital episode; those with office care, in large quantities, and no other services; and those with little care at any site. The interaction of current illness status, family circumstances, previous impairment, medical costs and supplementary insurance or Medicaid in determining these utilization patterns needs analysis.

Study of the sequence of care, financial burden, utilization decisions and reasons for use of certain practitioners and places of service will provide the informational base for reimbursement alternatives oriented toward annualized capitation payment to providers. The detailed understanding of beneficiary experience will be helpful in drafting the regulations that would be needed to assure that all types of beneficiary utilization patterns are anticipated under a capitation method. If such a method is offered as an option, the detail is needed to prevent adverse selection into the capitation group.

Research on access to physician services under present Part B reimbursement methods is desirable to aid in resolving issues of health financing policy and administrative decisions under Medicare.

CUNY has proposed a study based on currently available data that explores both determination of access by beneficiaries and determination of physicians' role as providers of access.

The study will show under what circumstances patients are likely to find doctors who are willing to accept assignment, and the relationship of assignment to several dimensions of utilization. This will help in formulating policy about the place of assignment in Medicare and how it might be increased or alternatives used to abate financial burdens on individuals.

The position of important Medicare subgroups - the very old, the new enrollee, the two sexes, the users in their last year of life, and the Medicaid "cross-over" group - will be available to aid in evaluating or proposing special efforts to assist given groups and in interpreting the effects of given modifications of law or regulations on such groups.

While physicians' services do not represent the whole health service spectrum, they are of outstanding importance because they influence the allocation of all other health care resources for the needs of particular

patients and because services to ambulatory patients offer the opportunity for regular health supervision and early, useful intervention into illness processes.

The approach used in this study takes the doctor's role in providing access as an important measure that can be applied to a health care system. Access is operationally defined in terms of variables that can be measured from available data and applied to individuals. Process variables related to access include such features as waiting and travel time. Outcome variables indicate measured utilization by different groups, or achieved access.[1/] This is a special meaning of outcome not to be confused with health outcomes of care as shown by mortality or residual disability. Both process and outcome variables are approached in this study.

The tentative list of variables to be analyzed includes the following:

Entry: Whether the annual deductible of $60.00 is met by several small services or by a single major event (indicating feasibility of achieving early diagnosis and treatment of illness and some preventive care).

Source: What proportion of services received is provided by specialists, an indicator of quality of care; what proportion of services received comes from providers in relative proximity to the beneficiary's residence, indicating minimal travel barriers.

Continuity: Receipt of services of a given category from one doctor rather than several doctors over a period of time, indicating a regular or stable source of care.

1/ Aday, L.A. and Andersen, R., Development of Indices of Access to Medical Care, Health Administration Press, University of Michigan, Ann Arbor, Michigan, 1975.

Utilization level: Number of services (adjusted for major-input vs. minor-input services) received over a period of time.

While interpreting each of the above in relation to access, some caution is necessary. However, the study should contribute to evaluating the effectiveness of Medicare arrangements in meeting the equity goal.

The factors of ability to pay, need for service based on health status, ability to search the market for preferred sources of care, and previous utilization habits (regular use of care) are expected to influence observed measures of access.

Ability to pay would most likely be conducive to entering the system without waiting for severe illness, to using more services at a given level of health, to using more specialist services, and to maintaining a regular source of care.

Need for care would stimulate entry into the system without waiting for major events because of subjective discomforts and fear of neglecting perceived disease states and the probability of having a regular source of care. However, it might predispose to major illness events. Need would be expected to encourage use of specialists and for patients with more need a high proportion of billings may be for hospitalized illness.

Search ability should promote making contact with a desired physician and thus having the deductible met by small encounters and use of more services. It could lead to having a satisfactory and therefore regular source of care, but may also be a necessary precondition of shifting sources.

Previous regular utilization would probably encourage meeting the deductible through small ambulatory services rather than major events, and use of a stream of services over time.

It can be seen from examples under need and search that there are ambiguities. One of the important ones is that the total volume of services used over time may be larger for those who do not have easy entry into the market, but who experience catastrophic illness. It is expected that careful consideration of interactions among variables will be basic to developing satisfactory explanations. Also, having several dependent variables measuring access affords an opportunity to assess the congruence among them as to explanatory factors. This permits, in addition, exploring a unitary access score for individuals sharing certain characteristics, for comparison with other groups.

Actual beneficiary variables expressing various aspects or combinations of the above factors will be used in the proposed study. A number of patient characteristics are available from the BEST (Beneficiary Eligibility Status Tape) file. They include age, sex, basis of Medicare eligibility, and address. Available beneficiary variables are viewed as proxies for several historical and current factors that enter into a utility maximization model of patient behavior in choosing doctors and circumstances of entry into the system.

Provision of access by physicians is another way of looking at access under Medicare. Questions that pertain to this are, how do doctors differ in willingness to accept assignment and in their involvement in providing care to specific groups, and what physician-related factors are associated with the observed differences as providers of access?

Recommendations for future studies presented in this chapter have been intended to help keep HCFA prepared for alterations in payment methods. The recommended studies generally call attention to the probability that payment techniques do not have the same impact on all individuals in the Medicare market, but operate differentially according to characteristics of providers and beneficiaries. The areas of study suggested include study of alternative

bases for physician payment, embracing variations on a unit fee basis and reimbursement for continuous service over some period of time; continued exploration of carrier practices, especially as they are felt by certain types of doctors; studies that would build up the knowledge base for diagnosis-related payment; and research on beneficiary experience and dimensions of access to health services.

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